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GUADALUPE RIVER

PLANNING STUDY

(Southern Pacific Railroad to Highway 101)

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ENGINEER'S REPORT

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GUADALUPE RIVER PLANNING STUDY

Southern Pacific Railroad in Alviso

to

Highway 101

ENGINEER'S REPORT

Project No. 3015

Engineer's Report Prepared by Flood Control Planning Division

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JULY 1995

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INTRODUCTION

This report presents the results of an investigation of the high water elevations which were observed along Guadalupe River north of Highway 101 to the Southern Pacific Railroad (SPRR) in Alviso during the January and March 1995 storms.

BACKGROUND

The storms in January and March 1995 corresponded to approximately a 15-year and 25-year event, respectively. During both storms, flooding occurred upstream of Highway 880. In the March event, a larger amount of flow overtopped the banks than during the January event with a similar amount of flow remaining within the channel downstream of Highway 880. In the January storm, the peak flow downstream of Highway 101 was an estimated 10,000 cubic feet per second (cfs). The peak flow in the March storm downstream of Highway 101 was, for the reason stated above, estimated to be along the same order of magnitude. In these lower reaches, high water elevations were observed and showed that the remaining freeboard ranged from 2 to 3 feet from the SPRR to Montague Expressway and 3.5 to 5.5 feet from Montague Expressway to Highway 101.

During the January storm, a large amount of debris collected at the upstream Route 237 bridge structure and was thought to have caused the high water elevations observed up through the Tasman Drive bridge. At the Route 237 bridge, only approximately a foot of freeboard remained below the bridge soffit at the peak of the flow and the concern was that had the flow been any larger, the debris load would have caused the water to overflow the bridge and ultimately the levees.

An analysis was performed to determine the causes of the high water elevations observed. The high water marks resulting from the January storm were surveyed downstream and upstream of Route 237 and upstream of Tasman Drive. These marks were used in the HEC-2 hydraulic model to determine the flow and channel "n" values (a measure of the channel's resistance to flow) at the time of the storm. The hydraulic analysis showed that the high water elevations were due to high channel "n" values and not the debris load. The composite channel "n" values found were 0.048 upstream of the SPRR, 0.057 upstream of Route 237, and 0.055 upstream of Tasman Drive.

The composite channel "n" values determined in the analysis far exceed the value used in the design of the channel from the SPRR to 1,500 feet downstream Hetch Hetchy. This reach was part of the 1983 Guadalupe River flood control project and was designed to carry the 1 percent flow rate of 17,000 cfs with 3 feet of freeboard using a composite channel "n" value of 0.03. This "n" value was thought to represent the stable vegetative condition existing at that time. Routine maintenance was to be limited to the levees and channel banks with the channel bottom remaining undisturbed. Routine maintenance was not anticipated along the channel bottom since the reach was subject to daily tidal action which limits the diversity in plant species. Both salt water and brackish marsh vegetation grew in a well-defined, narrow strip on both sides of the river with a mixture of upland "weedy" species on the banks. The thalweg (low-flow channel) was approximately 140 feet wide downstream of Route 237 and varied from 120 to 80 feet wide upstream of Route 237 and was exposed at low tide. The report noted that a change in vegetation became noticeable about 1,300 feet downstream of Hetch Hetchy. In the condition that exists today, this vegetation change seems to occur just upstream of Route 237 where coyote brush is now present on the channel banks and the channel bottom is now merely brackish marsh vegetation. The thalweg has also decreased and is now only 100 to 70 feet wide downstream of Route 237 and 90 to 70 feet wide upstream of Route 237, see Figure 1. It is apparent that the 1983 conditions no longer exist and sediment and denser vegetation are encroaching into the low-flow channel. The loss of the low-flow

channel width and the change in vegetation species are the major causes of the decrease in channel capacity in this reach.

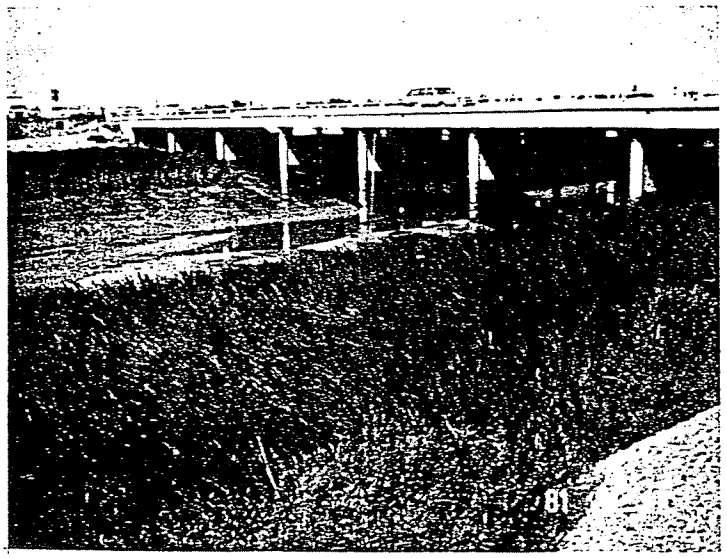
Additionally, in 1991, specific hydraulic maintenance guidelines were developed for this reach and verified in November 1992 by a hydraulic model created from aerial photos flown in January 1992. The analysis for the maintenance guidelines determined that a composite channel "n" value of 0.034 was required to provide 3 feet of freeboard. Todays channel condition has not changed significantly since 1992 and up until the January flood the "n" value determined in the 1992 study was thought to represent both the 1983 flood control project and todays channel condition. The analysis of the high flow resulting from the January storm has shown that this is not the case. In fact, the condition thought to be an "n" value of 0.034 is more likely an "n" value of 0.048 to 0.057 which reflects the loss of the low-flow channel width and the change in vegetation species. This is approximately a 40 percent reduction in capacity.

A hydraulic analysis was also completed for the 1995 storm condition from 1,500 feet downstream Hetch Hetchy to Highway 101. This analysis showed a similar increase in the composite channel "n" values. The composite channel "n" values found were approximately 0.048 upstream of Hetch Hetchy, 0.067 upstream of Montague Expressway, and 0.053 upstream of Trimble Road to Highway 101. These reaches were also designed in the 1983 Guadalupe River flood control project to carry the 1 percent flow rate of 17,000 cfs with 3 feet of freeboard using composite channel "n" values of 0.041 upstream of Hetch Hetchy, 0.039 upstream of Montague Expressway, and 0.054 from Trimble Road to Highway 101. The existing condition from Montague Expressway to Trimble Road reflects a large increase in the "n" value which relates to approximately a 40 percent reduction in capacity. This was due to a change in flow condition which allowed both sediment and vegetation to develop in the excavated overflow channel area. Cross sections taken from Montague Expressway to Trimble Road in April 1995 revealed that the channel area has experienced approximately 2 feet of sediment from Montague Expressway to 3,000 feet upstream. A hydraulic model which included the 2 feet of sediment showed a maximum water surface elevation increase of 0.2 feet midway in the reach and an overall increase of 0.1 feet at Trimble Road. The analysis revealed that the sedimentation had minor impacts on the calculated water surface elevation which means the vegetation growth is the major cause of the decrease in channel capacity in this reach.

The 1 percent design flow and the composite channel "n" values determined to represent todays channel condition were used in the hydraulic model. The resulting water surface elevation from the SPRR to Highway 101 either exceeds the top of levee or encroaches into the 3 feet of freeboard. This shows that the 1 percent flood capacity is not provided at this time. Table 1 shows the comparison of the 1983 design capacity to the existing capacity by reach.

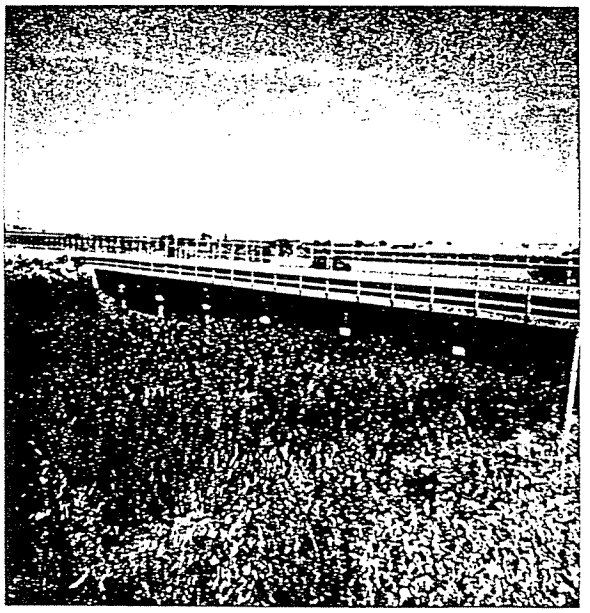
PROJECT DESCRIPTION

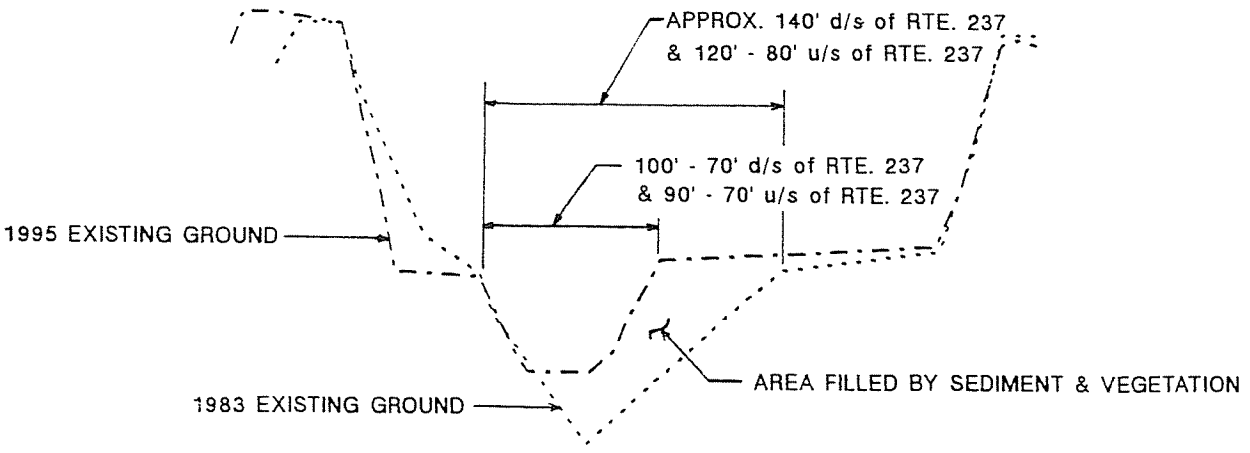
The overall increase in channel "n" values relates to a decrease in flood capacity. As a result, a special project team was assembled to investigate the options for restoring the flood capacity. One objective was to insure the 1 percent flood capacity with freeboard such that the facility functions as required in the Local Cooperation Agreement for the Corps of Engineers' (Corps) project upstream. According to the interim Operations and Maintenance Manual, the Corps specified as the acceptable maintenance limit that the 1 percent water surface elevation must not encroach more than 50 percent into the design freeboard. This would allow the 3-foot design freeboard to be reduced to 1.5 feet. The existing capacity of the channel, with 1.5 feet of freeboard, is shown in Table 2.



1983 CONDITION
UPSTREAM OF ROUTE 237

1995 EXISTING CONDITION
UPSTREAM OF ROUTE 237





TYPICAL SECTIONS FOR THE 1983 & 1995 CONDITIONS

Figure 1

Reach Location	1983 Design Capacity with 3 feet of design freeboard	1995 Existing Capacity with 3 feet of design freeboard
SPRR to 1,500 Feet Downstream Hetch-Hetchy	17,000 cfs	8,000 cfs
1,500 Feet Downstream Hetch-Hetchy to Montague Expressway	17,000 cfs	9,000 cfs
Montague Expressway to Trimble Road	17,000 cfs	11,000 cfs
Trimble Road to Highway 101	17,000 cfs	13,000 cfs

Table 1

Reach Location	1995 Existing Capacity with 1.5 feet of freeboard
SPRR to 1,500 Feet Downstream Hetch-Hetchy	11,000 cfs
1,500 Feet Downstream Hetch-Hetchy to Montague Expressway	11,000 cfs
Montague Expressway to Trimble Road	14,000 cfs
Trimble Road to Highway 101	16,000 cfs

Table 2

Recognizing that any measures implemented from this study would likely be followed by a comprehensive multiyear planning study, the project team established as a specific objective that the Guadalupe River between the SPRR in Alviso and Highway 101 must be sufficiently adequate at the beginning of the 1995-96 flood season to carry the 1 percent flow rate with at least 1.5 feet of freeboard for possibly the next 2 to 4 years.

Investigation of the channel from the SPRR to Highway 101 was broken down into the same reaches as the 1983 Guadalupe River flood control project for ease of interpreting the 1983 project's Engineer's and Environmental Impact Report (ER/EIR). Reach 1 is defined from the SPRR to 1,500 feet downstream of Hetch Hetchy. Reach 2 is defined from 1,500 feet downstream of Hetch Hetchy to Montague Expressway. Reach 3 is defined from Montague Expressway to Trimble Road. Reach 4 is defined from Trimble Road to Highway 101. Figure 2 shows a map delineating the reaches. Figure 3 shows the typical sections as designed and constructed in 1983.

To regain the 1 percent flood capacity, it would be necessary to produce a condition reflecting the 1983 project design "n" values by expanded maintenance activities or to implement remedial design and construction measures. Numerous options were investigated to restore the 1 percent flood capacity with 1.5 feet of freeboard. Options addressing sediment removal had several constraints associated with them, as did options addressing vegetation removal. To restore the capacity, five options were investigated along with a no project option. The five options were: (1) Add Height to the Levees Above the "As-Built" Condition; (2) Dredging/Excavating the Middle Low-Flow Channel and the Excavated Channels to Restore the As-Built Condition; (3) Expand Vegetation Control Using a Combination of Above Ground Mechanical Means and Herbicides; (4) Modify Upstream Reservoir Operation to Provide Flood Control Storage and Reduce Downstream Flow Rates; and (5) a Combination Plan. Options 1 and 5 were found feasible for the summer of 1995 because they would not involve the lengthy regulatory processes. Option 1, adding height to the levees, would only provide the 1 percent flood capacity with 1.5 feet of freeboard for todays channel condition. Option 5 is a combination of Option 1 with the existing maintenance program which together would meet the specific objective identified by the special project team. Options 2, 3, and 4 were found infeasible due to insufficient time to complete either the regulatory processes or the investigation. The no project option consists of continuing the existing maintenance program as described in the 1983 project ER/EIR. A description of the proposed options follows.

No Project Option

This option would continue the existing maintenance program as described in the 1983 Guadalupe River flood control project ER/EIR. These activities consist of maintaining the channel vegetation, in limited areas, and the levees to their as-built elevations. The permissible channel maintenance locations are shown in Figure 4. In Reach 1, vegetation can be cleared from the inboard levee slopes. In this area, vegetation control has occurred annually. The vegetation is mowed and then selectively sprayed for broadleaf weeds. This summer, scheduled maintenance would also include cutting back the woody vegetation by mechanical means with herbicides applied to the stubs. In Reach 2, vegetation can be cleared from the inboard levee slopes and the excavated channels. Along the inboard levee slopes, vegetation control has occurred in the same manner as in Reach 1. Scheduled maintenance for this summer would also include removing the woody vegetation as in Reach 1. Vegetation and sediment have also been removed from the excavated channels on either side of the low-flow channel. Per the 1983 project ER/EIR, vegetation and sediment removal can only occur in each excavated channel on alternate years. Since 1988, approximately 30,000 cubic yards of sediment has been removed. However, routine sediment removal cannot continue until a Corps 404 permit is obtained, but vegetation removal using hand labor, mechanical equipment,

and herbicides would continue. In Reach 3, routine maintenance has been limited to the inboard levee slope of the east bank and along the excavated overflow channel for a 100-foot maximum width. The vegetation on the inboard levee slope has been removed in the same manner as in Reaches 1 and 2. Scheduled maintenance for this summer would also include removing the woody vegetation as in Reaches 1 and 2. In the excavated overflow channel area, vegetation is mowed with woody vegetation removed by hand. Sediment removal last occurred in 1992 when approximately 13,500 cubic yards of sediment was removed. And just as in Reach 2, routine sediment removal cannot continue until a Corps 404 permit is obtained. In Reach 4, routine maintenance has been limited to the inboard levee slopes. This area has been cleared of vegetation in the same manner as in Reaches 1, 2, and 3. Woody vegetation would also be scheduled for removal this summer. In addition to the above vegetation control, the 1983 project ER/EIR also stated that in Reaches 2, 3, and 4, if the vegetation became excessive in the remaining riparian areas and the historical low-flow channel, that maintenance could be done on a selective basis to remove obstructions to flow.

This vegetation control would not require any additional Corps permits or California Environmental Quality Act (CEQA) documents since sediment would not be removed and the described vegetation control was addressed in the 1983 project ER/EIR. This activity would also comply with the 1990 California Department of Fish and Game (CDFG) Memorandum of Understanding (MOU) for Routine Maintenance Activities in Improved Channels. However, a letter of approval from the CDFG fishery biologist to comply with the MOU would be required prior to removing any woody or herbaceous vegetation between Montague Expressway and Highway 101. Based on preliminary consultation, vegetation removal is expected to be approved by the CDFG's fishery biologist with some possible mitigation requirements. If excessive mitigation requirements are imposed by the CDFG fishery biologist, the applicable vegetation control would be reduced or eliminated. In addition to the current vegetation control, all vegetation 100 feet upstream and downstream of Tasman Drive, Montague Expressway, and Trimble Road would be scheduled for removal this summer. Trees along the channel bottom, 100 to 350 feet downstream of Montague Expressway, would also be scheduled for removal to remove obstructions to flow. This would require a CDFG 1601 permit and would take approximately 30 days to obtain. The vegetation control would begin in July. The cost for removing vegetation and trees, based on past average annual cost, is estimated to be $90,000 a year. It should be noted that the "n" values determined for the current channel condition were used in the hydraulic analysis to determine the available freeboard. If the channel "n" values found are allowed to increase, then the available freeboard determined would continue to decrease. Therefore, this part of the option would provide some vegetation control to insure todays channel condition does not degrade further but would not restore the channel to the design condition. This is because of the limits of permissible vegetation control. As a result, the existing vegetation control would not meet the objective of providing the 1 percent flood capacity with 1.5 feet of freeboard.

The existing maintenance program also includes maintaining the channel as-built levee elevations. This has occurred from the SPRR to Highway 101 and is limited to the top of levee. Periodic restoration of levee elevations is required due to anticipated settlement of the levee embankment in this area. The most recent levee restoration work began last September along the eastern levee from Gold Street to Tasman Drive and along the western levee from Gold Street to 2,550 feet upstream of Tasman Drive. Work was suspended in mid-November due to the start of the rainy season. This work has been rescheduled for this summer and would include all-weather surfacing on top of both levees. The cost of restoring the levees back to the as-built condition is estimated to be $140,000. No other areas would be impacted. The only constraint would be to complete the work, which would take approximately 4 weeks, before the rainy season. The tentative

schedule would require beginning no later than September 1. No Corps or CDFG permits would be required, but a categorical exemption for compliance with the CEQA would need to be prepared. The gain in channel capacity from restoring the levees back to the as-built condition is shown in Table 3. The height required to restore the levees back to the as-built condition varies from 0 to 4 feet based on preliminary survey information.

Option 1. Add Height to the Levees Above the "As-Built" Condition

This option would raise the levee height above the as-built condition without changing the base width or impacting the inside side slopes. The raised levee design would maintain a minimum 12-foot top width using soil reinforcement where necessary, such as geoweb or hilfiker wire, and would have 4 inches of aggregate base on all road surfaces, see Figure 5. The cost is estimated to be $1,400,000. The work would extend from the SPRR to Trimble Road. No Corps permits would be required, but a CDFG 1601 permit would be necessary and would take approximately 30 days to obtain. Also, a categorical exemption document would be required for CEQA compliance but would only take a few days to prepare. This option is proposed to be constructed at the same time the levees would be restored to the as-built condition. The work would take approximately 3 months and would begin in July and be completed before the rainy season. The levees would need to be raised a maximum of 2.7 feet in Reach 1, 1.2 to 2.7 feet in Reach 2, and 0.4 to 1.9 feet in Reach 3 above the as-built condition. The capacity of the as-built condition compared to the gain in capacity if this option were implemented, with 1.5 feet of freeboard, is shown in Table 4. With this option, eastbound Highway 237, Tasman Drive, and Montague Expressway would be under pressure flow. Raising the levee height without any channel clearing causes an overall increase in water surface elevation of 2.8 feet at Highway 101. This rise in water surface does not affect the design water surface elevations upstream of Highway 101. This option would restore the 1 percent flood capacity with 1.5 feet of freeboard provided the "n" values determined for todays channel condition do not degrade further.

Option 2. Dredging/Excavating the Middle Low-Flow Channel and the Excavated Channels to Restore the As-Built Condition

This alternative would restore the middle low-flow channel back to the as-built condition by removing the sediment and vegetation that has encroached into the channel bottom. The work would extend from the SPRR to 1,500 feet downstream of Hetch Hetchy. In addition, the excavated channels from 1,500 feet downstream of Hetch Hetchy to Trimble Road would need to be restored to their as-built condition. This option would have significant impacts to the environment. Permits would be required from the Corps and the CDFG. An EIR or Negative Declaration would also have to be prepared to meet CEQA requirements. The CEQA document and the Corps's 404 permit would take 1 to 1.5 years to complete with approval. Since there is not sufficient time to complete the permitting processes before next winter, this option should be reconsidered as a possible long-term solution. Further investigation would also be necessary to determine the gain in capacity. Therefore, this is not considered a feasible option for implementing this summer.

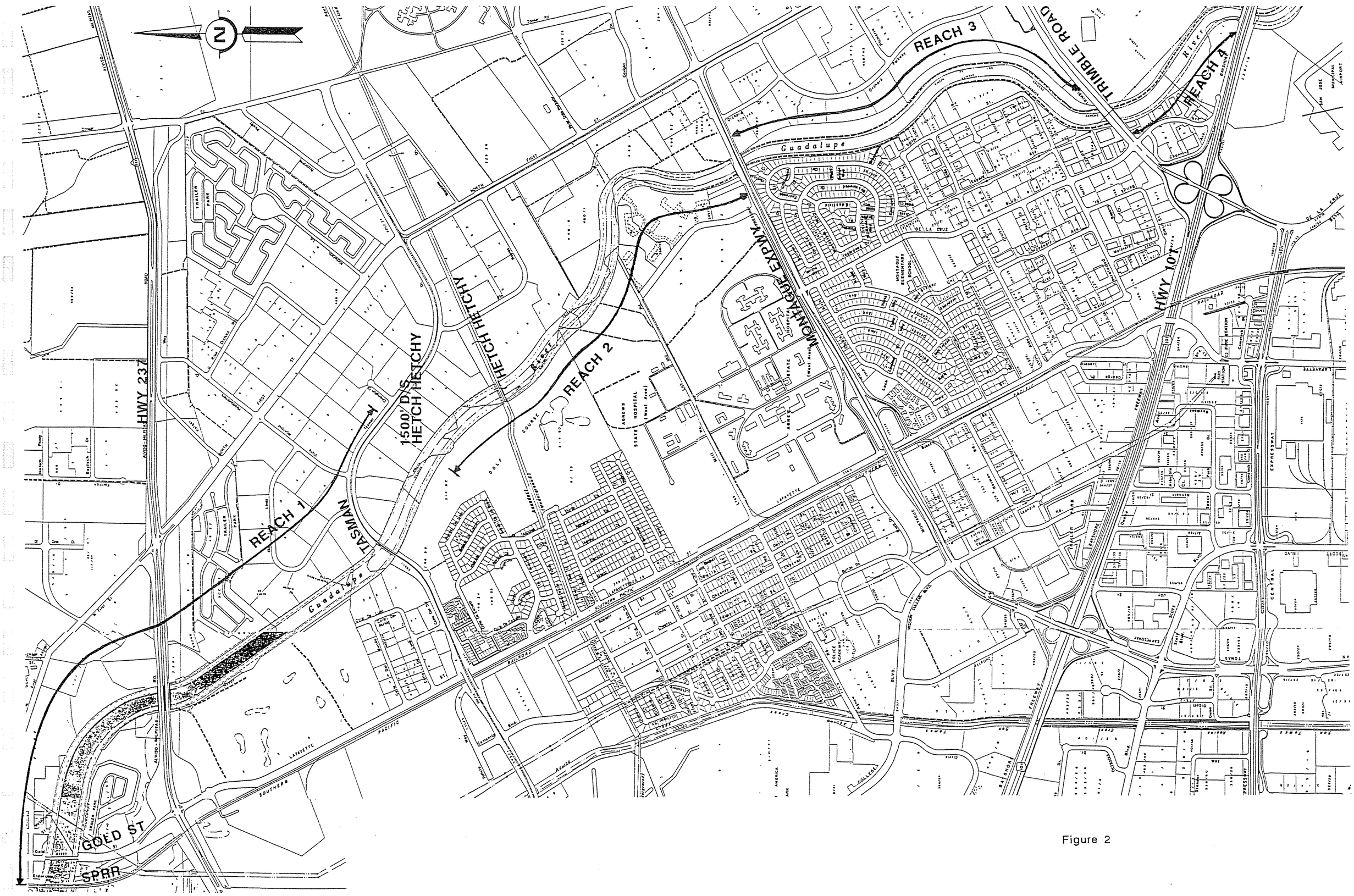
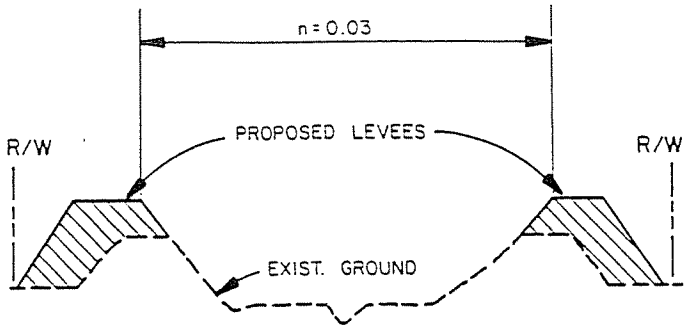

N
HWY 237
1500' D/S HETCH HETCHY
HETCH HETCHY
REACH 1
REACH 2
REACH 3
REACH 4
MONTAGUE EXPWY
TRIMBLE ROAD
HWY 101
TASMAN
GOLD ST
SPRR
Guadalupe
River
First
Alviso-Milpitas Rd.
Trailer Park
Course
Golf
State Hospital (West Area)
Montague Elementary School
Railroad
Southern Pacific
Lafayette
Freeway
Expressway
Central
San Jose Municipal Airport

Figure 2

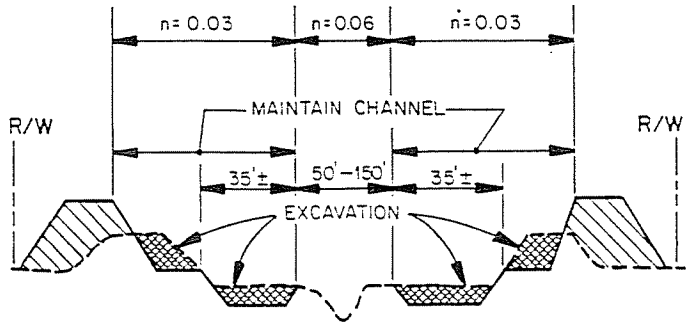
1983 Guadalupe River Flood Control Project

Typical Sections

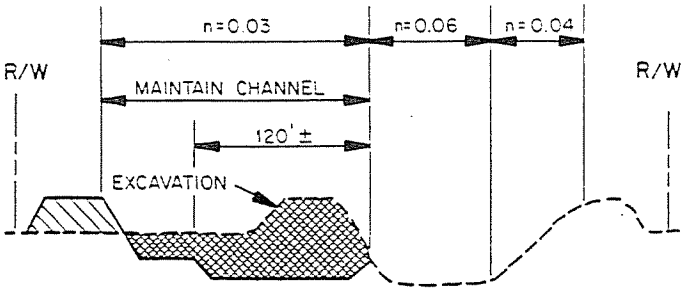
(SECTIONS LOOKING UPSTREAM)



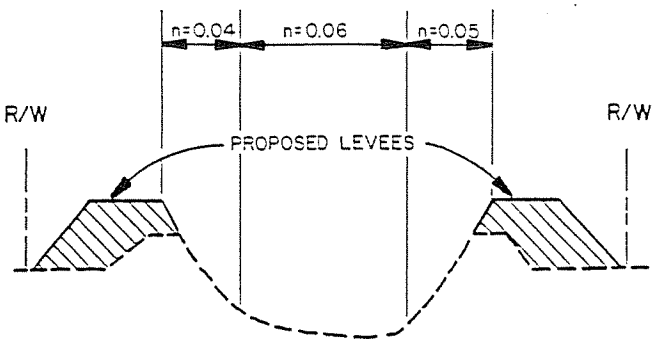
SPRR to 1500 FT. DOWNSTREAM OF HETCH-HETCHY



1500 FT. DOWNSTREAM OF HETCH-HETCHY to MONTAGUE EXPRESSWAY



MONTAGUE EXPRESSWAY to TRIMBLE ROAD

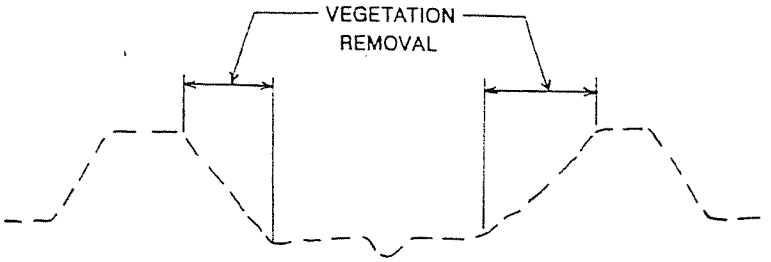


TRIMBLE ROAD to HIGHWAY 101

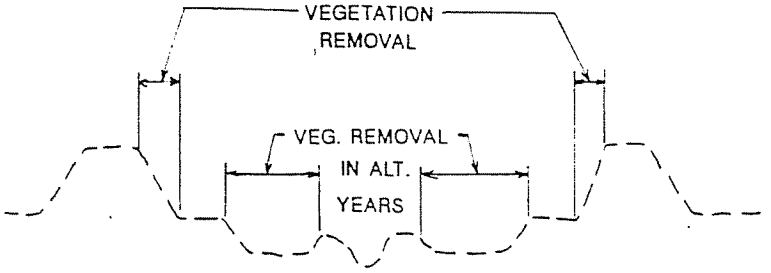
Figure 3

No Project Option

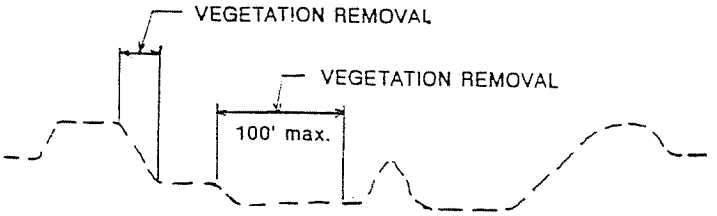
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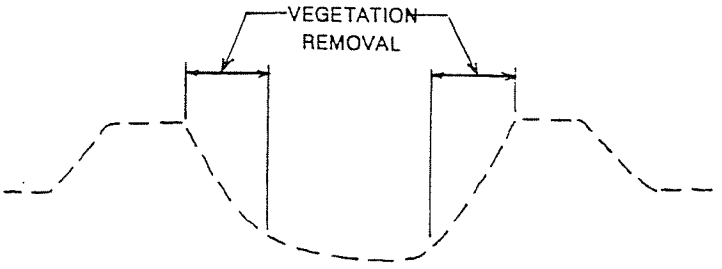
SPRR to 1500 FT. DOWNSTREAM OF HETCH-HETCHY



1500 FT. DOWNSTREAM OF HETCH-HETCHY to MONTAGUE EXPRESSWAY



MONTAGUE EXPRESSWAY to TRIMBLE ROAD



TRIMBLE ROAD to HIGHWAY 101

Figure 4

No Project Option

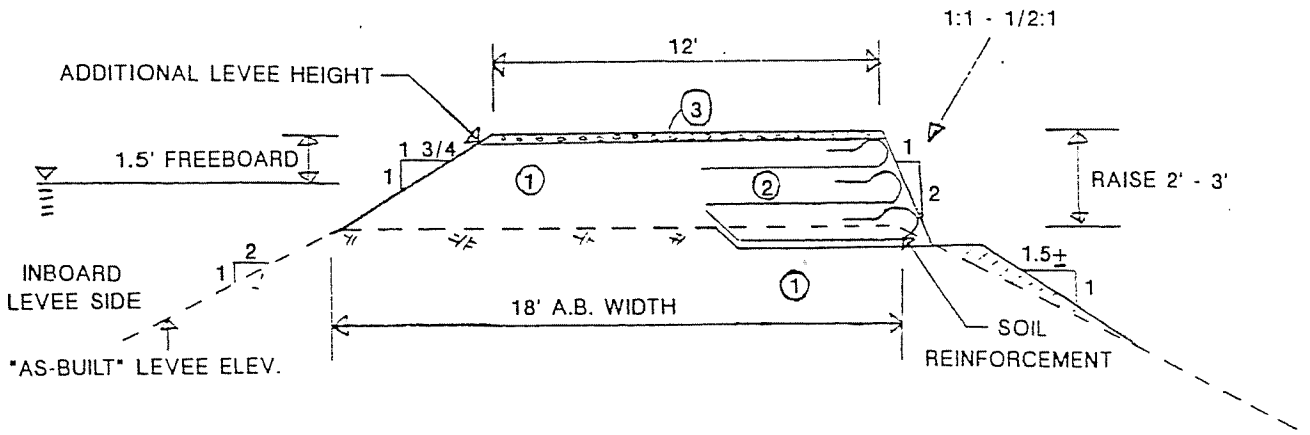
Restore Levee Heights to the "As-Built" Condition

Reach Location	Required Height Above Existing Condition	Permit Requirements		CEQA Requirements			Capacity with 1.5 feet of freeboard		
		Corps 404	CDFG 1601	EIR	Neg. Dec.	Cat. Exempt.	Exist. (cfs)	Gain (cfs)	Total (cfs)
SPRR to 1,500 Feet Downstream Hetch-Hetchy		None	None	-	-	Yes	11,000	1,000	12,000
1,500 Feet Downstream Hetch-Hetchy to Montague Expressway		None	None	-	-	Yes	11,000	1,000	12,000
Montague Expressway to Trimble Road		None	None	-	-	Yes	14,000	0	14,000
Trimble Road to Highway 101		None	None	-	-	Yes	16,000	1,000	17,000

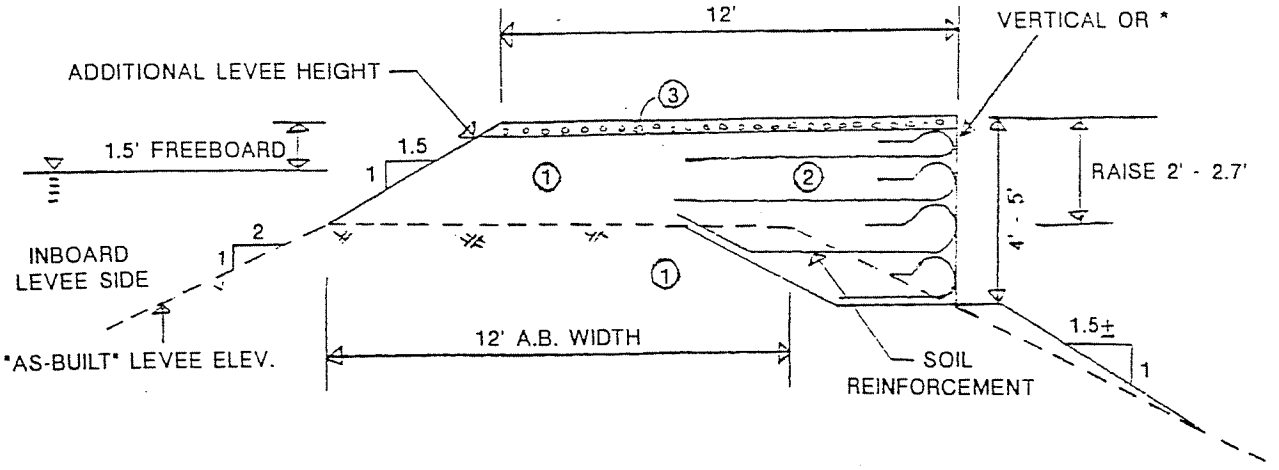
Table 3

Option 1

Add Height to the Levees Above the "As-Built" Condition



SPRR to 1500' d/s HETCH-HETCHY



* OR USE 1/2:1 BOTH SIDES (INSTEAD OF 1.5:1 CREEKSIDE AND VERTICAL OTHER SIDE)

1500' d/s HETCH-HETCHY to TRIMBLE ROAD

MATERIALS FILL:
① IMPERVIOUS SANDY CLAY, P.I ⩽ 25
② SEMI-IMPERVIOUS, OR STRUCTURAL BACKFILL, P.I ⩽ 1.5±
③ 4" AGGREGATE BASE SURFACING

Figure 5

Option 1

Add Height to the Levees Above the "As-Built" Condition

Reach Location	Required Height Above As-Built Levee	Permit Requirements		CEQA Requirements			Capacity with 1.5 feet of freeboard		
		Corps 404	CDFG 1601	EIR	Neg. Dec.	Cat. Exempt.	As-Built (cfs)	Gain (cfs)	Total (cfs)
SPRR to 1,500 Feet Downstream Hetch-Hetchy	0' to 2.7'	None	Yes	-	-	Yes	12,000	5,000	17,000
1,500 Feet Downstream Hetch-Hetchy to Montague Expressway	1.2' to 2.7'	None	Yes	-	-	Yes	12,000	5,000	17,000
Montague Expressway to Trimble Road	0.4' to 1.9'	None	Yes	-	-	Yes	14,000	3,000	17,000
Trimble Road to Highway 101	0'	None	None	-	-	None	17,000	0	17,000

Table 4

Option 3. Expand Vegetation Control Using a Combination of Above Ground Mechanical Means and Herbicides

This activity would involve using above ground mechanical means and herbicides throughout the channel section to produce the 1983 project design "n" values. This would require removing a substantial amount of channel vegetation as shown in Figure 6. The cost of the vegetation remova is estimated to be $130,000. In Reach 1, all the channel vegetation would need to be removed. In Reach 2, vegetation would need to be removed from the inboard levee slopes and both excavated channel bottoms. In Reach 3, all the vegetation would need to be removed from the excavated channel bottom and the inboard levee slope of the east bank. Required vegetation removal in Reach 4 would conform with existing maintenance practices. Any trees existing along the channel bottom in Reaches 2 and 4 would also have to be removed. This would require a CDFG 1601 permit. This option would have significant impacts to the environment. Therefore, an EIR or Negative Declaration would have to be prepared to meet CEQA requirements. With minimal impact, a Negative Declaration may be possible. Minimal impact is undefined and would be dependent on responses of the regulatory agencies. Possible endangered species, such as the clapper rail, may also exist in the tidal area. Further investigation would be required to discount their existence. If endangered species are found, an EIR would be required. An EIR would make this option infeasible since this would take approximately 1 to 1.5 years to complete with approval. Since there is not sufficient time to complete the required assessments and the permitting processes before next winter, this option is not considered feasible for implementing this summer but should be reconsidered as a possible long-term solution.

Option 4. Modify Upstream Reservoir Operation to Provide Flood Control Storage and Reduce Downstream Flow Rates

This option would change the water supply operations of the four Guadalupe watershed reservoirs to provide flood storage. This would be accomplished by releasing runoff through the reservoir outlets. The estimated time required to drain each reservoir to minimum pool assessing full open valve, no inflow, and full reservoir would be approximately 30 days. This could provide substantial flood storage capacity if there were several days between storms. It was estimated that by continuously drawing down the reservoirs, the Santa Clara Valley Water District (District) would lose 14,500 acre-feet (AF) of water in an average year and 24,200 AF of water in a wet year. Using an imported water rate of $120/AF, the annual cost to the District would average $1.7 million and range from 0 to $2.9 million. In a dry year, there would be little or no impact because there is very little water available. If the reservoirs were at 75 to 80 percent full, the optimum flood attenuation would be achieved which would be a 28 percent reduction in peak stream flow. The incidental storage in the Guadalupe watershed used as the basis to estimate the current 1 percent hydrology is, coincidently, already approximately 70 to 75 percent full. This is near the optimum level. To maximize the 1 percent flood reduction by keeping the reservoir empty, the 1 percent peak attenuation would only increase from 28 percent to a theoretical maximum of 36 percent. This would be approximately a 1,000 cfs reduction in the 1 percent peak which would not significantly increase the level of protection in the existing channel system. Operating the reservoirs with 25 percent capacity reserved for flood control storage would create losses in water supply of 3,200 AF in an average year and 5,300 AF in a wet year. This would cost between $400,000 and $630,000. A CEQA document may be required depending on the scope. This would likely be a Negative Declaration. The reservoir draw down would have the least impact in a dry year because there is so little water available. In a wet year, there would still be abundant water. Further detailed investigation would be necessary to estimate the value of this option. There is not sufficient time to complete operational studies on the four Guadalupe watershed reservoirs;

therefore, this is not considered a feasible option to meet the immediate objective of providing the 1 percent flood protection plus 1.5 feet of freeboard before next winter and continuing for the next 2 to 4 years. Multipurpose reservoir operation may be possible to balance flood control and water supply needs and should be reconsidered as a possible long-term solution.

Option 5. Combination Plan

This plan would combine Option 1 with the existing maintenance program. This combination of maintenance activities and construction measures would fulfill the objective of containing the 1 percent flow rate with 1.5 feet of freeboard before next winter. This combination is required since raising the levees is the only option that can be completed in time to contain the 1 percent flow rate with 1.5 feet of freeboard provided the "n" values determined for todays channel condition do not degrade further. To insure this condition, some type of vegetation control would need to be implemented. The only vegetation control feasible for the summer of 1995 that would not involve the lengthy regulatory processes is the existing maintenance program. Without including the no project option, channel "n" values would continue to increase and the available freeboard would continue to decrease. The existing maintenance program would help insure that the current channel condition does not degrade further.

PROJECT SELECTION

The selected project is Option 5, the Combination Plan. Five options along with a no project option were investigated as shown in Tables 5 and 6. Of the five options investigated, Option 5 is the only one that would meet the specific objective identified by the special project team: to insure that the Guadalupe River between the SPRR in Alviso and Highway 101 is sufficiently adequate at the beginning of the 1995-96 flood season to carry the 1 percent flow rate with at least 1.5 feet of freeboard for possibly the next 2 to 4 years. The selection of this option is based on many factors including design, maintenance access, regulatory requirements, timing of implementation, and community acceptance.

PROJECT COST, FINANCING, AND SCHEDULE

The estimated total cost of the recommended project is $1.63 million and includes all cost for maintenance, engineering, construction, inspection, and administration.

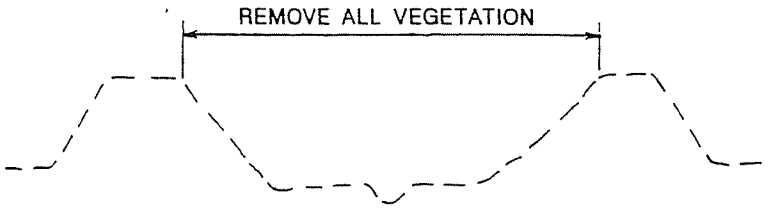
The proposed measures will be financed through two sources of existing revenue: (1) the Central Zone's allocation of the 1 percent property tax and (2) the Central Flood Control Zone benefit assessments.

The estimated maintenance and construction schedule is shown in Table 7. As shown in the table, vegetation clearing and construction are expected to begin in July.

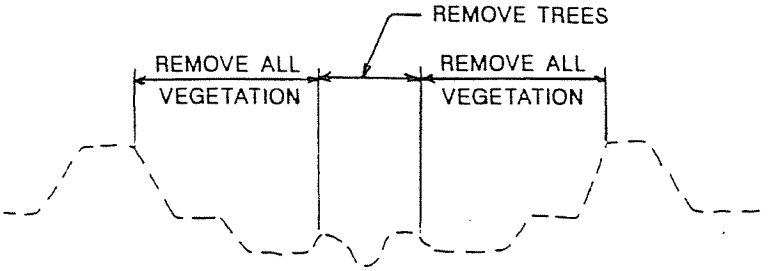
Option 3

Expand Vegetation Control Using a Combination of Above Ground Mechanical Means and Herbicides

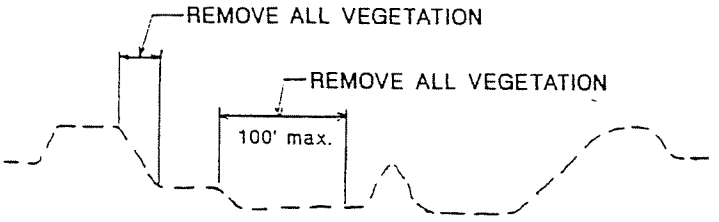
(SECTIONS LOOKING UPSTREAM)



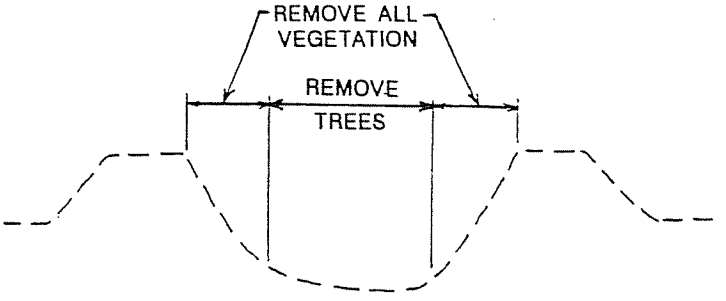
SPRR to 1500 FT. DOWNSTREAM OF HETCH-HETCHY



1500 FT. DOWNSTREAM OF HETCH-HETCHY to MONTAGUE EXPRESSWAY



MONTAGUE EXPRESSWAY to TRIMBLE ROAD



TRIMBLE ROAD to HIGHWAY 101

Figure 6

Summary of Objective Criteria

Project Objective: "that the Guadalupe River between the SPRR in Alviso and Highway 101 must be sufficiently adequate at the beginning of the 1995-96 flood season to carry the 1% flow rate with at least 1.5 feet of freeboard for the next 2-4 years"

Options	1% Capacity	1.5' of Freeboard	Time to Implement	1-4 yr Objective Met
No Project (Continue Maintenance Only)	NO	NO	1-2 MONTHS	NO
1. Add Height to the Levees Above the "As-Built" Condition	YES	YES	3 MONTHS	NO 1 YR
2. Dredging/Excavating the Middle Low-Flow Channel and the Excavated Channels to Restore the "As-Built" Condition	UNKNOWN	UNKNOWN	APPROX. 1.5 YRS	UNKNOWN
3. Expand Vegetation Control Using a Combination of Above Ground Mechanical Means and Herbicides	YES	YES	APPROX. 1.5 YRS	YES
4. Modify Upstream Reservoir Operation to Provide Flood Control Storage and Reduce Downstream Flow Rates	NO	NO	1-3 YRS	UNKNOWN
5. Combination Plan	YES	YES	3 MONTHS	YES

Table 5

SUMMARY OF CONCEPTUAL OPTIONS

Project Objective: "that the Guadalupe River between the SPRR in Alviso and Highway 101 must be sufficiently adequate at the beginning of the 1995-96 flood season to carry the 1% flow rate with at least 1.5 feet of freeboard for the next 2-4 years"

OPTIONS		ISSUES OF CONCERN				
OPTION	DESCRIPTION	FLOODING	REGULATORY REQUIREMENTS	ADVERSE IMPACTS	REMARKS	ESTIMATED COST
No Project	Continue existing maintenance program per the 1983 Guadalupe River project ER/EIR consisting of limited vegetation control and restoring "As-Built" levee elevations.	Protection to the 100-year flood no longer provided.	Letter of approval required from the CDFG fishery biologist for woody and herbaceous vegetation removal from Montague to Hwy 101 CDFG 1601 permit required for selective tree removal. Categorical Exemption required to restore the AB levee elevations.	Local Cooperation Agreement for the Corps' project upstream not met. Surrounding areas subject to potential flooding.	Does not meet objective.	$90,000 ave.annual veg. cost $140,000 levee restoration cost
1. Add Height to the Levees Above the "As-Built" Condition	Raise the levee height above the "As-Built" condition.	Restores the 1% flood capacity with 1.5' of freeboard for the current channel condition.	CDFG 1601 permit required. Categorical Exemption required.	Local Cooperation Agreement for the Corps' project upstream met for the current condition.	Meets objective for current condition.	$1,400,000
2. Dredging/Excavating the Middle Low-Flow Channel and the Excavated Channels to Restore the "As-Built" Condition	Restore the middle low-flow channel from SPRR to 1500' d/s Hetch-Hetchy and the excavated channels back to their "As-Built" condition.	Further investigation needed to determine the gain in capacity.	Corps 404 permit required. CDFG 1601 permit required. Possible EIR or Negative Declaration required for CEQA.	Significant impacts to the environment. Insufficient time to complete the regulatory processes before next winter.	Does not meet objective.	$850,000 $735,000 for reach 1 & $115,000 for reaches 2 & 3
3. Expand Vegetation Control Using a Combination of Above Ground Mechanical Means and Herbicides	Control vegetation by using above ground mechanical means and herbicides throughout the channel section to produce the 1983 ER/EIR design parameters.	Restores the 1% flood capacity with 1.5' of freeboard.	Letter of approval required from the CDFG fishery biologist from Montague to Highway 101. CDFG 1601 permit required. Possible EIR or Negative Declaration required for CEQA.	Significant impacts to the environment. Insufficient time to complete the regulatory processes before next winter.	Does not meet objective.	$130,000
4. Modify Upstream Reservoir Operation to Provide Flood Control Storage and Reduce Downstream Flow Rates	Change the water supply operations of the four Guadalupe watershed reservoirs to provide flood storage.	Further investigation needed to determine the gain in capacity.	Possible EIR or Negative Declaration required for CEQA.	Insufficient time to complete operational studies before next winter.	Does not meet objective.	Up to $2,900,000
5. Combination Plan	Combines option 1 with the existing maintenance program.	Restores the 1% flood capacity with 1.5' of freeboard.	Categorical Exemption required. CDFG 1601 permit required. Letter of approval required from the CDFG fishery biologist from Montague to Highway 101.	Local Cooperation Agreement for the Corps' project upstream met.	Meets objective.	$1,630,000

Table 6

Maintenance and Construction Schedule

Reach	Limits	Proposed Measures	Construction Schedule
1	SPRR to 1500' d/s of Hetch-Hetchy	Vegetation removal from the inboard levee slopes.	Sep-95
		Vegetation removal for 100' d/s & u/s of Tasman.	Sep-95
1	SPRR to 1500' d/s of Hetch-Hetchy	Raise the levee height above the As-Built condition.	Aug-Sep-95
2	1500' d/s of Hetch-Hetchy to Montague Expressway	Vegetation removal from the inboard levee slopes and from one of the excavated channels.	Jul-Aug-95
		Vegetation removal for 100' d/s of Montague.	Jul-95
		Selective tree removal 100' to 350' d/s of Montague.	Jul-95
2	1500' d/s of Hetch-Hetchy to Montague Expressway	Raise the levee height above the As-Built condition.	Aug-Sep-95
3	Montague Expressway to Trimble Road	Vegetation removal from the east bank inboard levee slope and from the excavated channel.	Jul-95
		Vegetation removal for 100' u/s of Montague and 100' d/s of Trimble.	Jul-95
3	Montague Expressway to Trimble Road	Raise the levee height above the As-Built condition.	Aug-Sep-95
4	Trimble Road to Highway 101	Vegetation removal from the east bank inboard levee slope.	Jul-95
		Vegetation removal from 100' u/s of Trimble.	Jul-95
4	Trimble Road to Highway 101	Restore the levee height to the As-Built condition.	Jun-95

Table 7

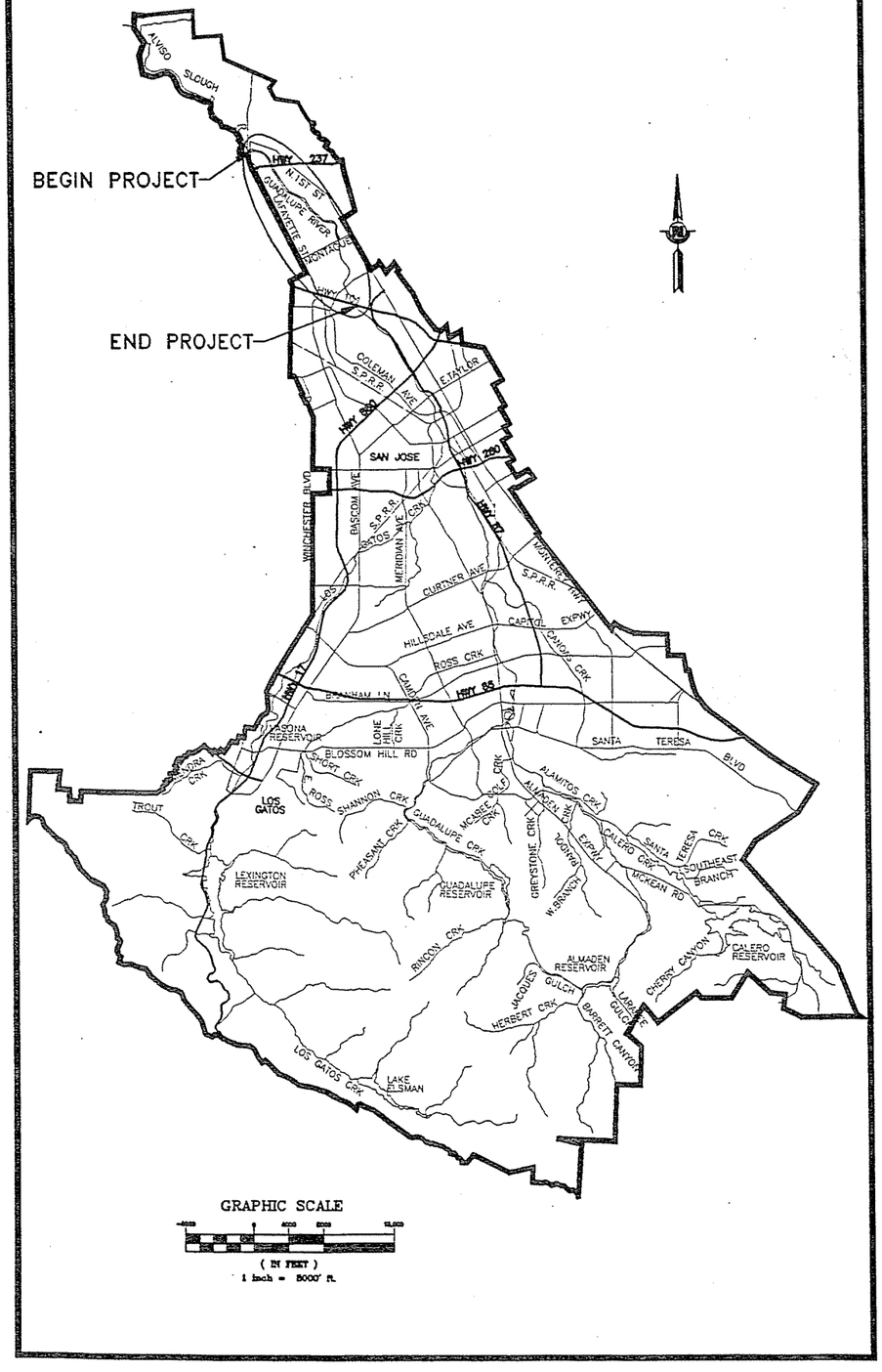
CONCLUSIONS AND RECOMMENDATIONS

The Guadalupe River between the SPRR in Alviso and Highway 101 was constructed in 1983 to carry the 1 percent flow rate of 17,000 cfs with 3 feet of freeboard. Based on data collected from the January and March 1995 storm events, a hydraulic analysis was completed and showed that the 1 percent flood capacity was not provided at this time. In fact, from the SPRR to Trimble Road, there is approximately a 40 percent reduction in channel capacity. Both sediment deposition and vegetation growth have been identified as the main causes of reduction in channel capacity. The loss of the low-flow channel width and the change in vegetation species are the major causes of the decrease in channel capacity from the SPRR to 1,500 feet downstream of Hetch Hetchy. Vegetation growth alone is the major cause of the decrease in channel capacity from 1,500 feet downstream of Hetch Hetchy to Trimble Road.

The fact that the channel can no longer convey the 1 percent flow rate poses two problems. First, the Local Cooperation Agreement for the Corps' project upstream is no longer fulfilled which could jeopardize completing the upstream project. Secondly, the lower Guadalupe River reaches from the SPRR to Highway 101 are no longer protected from the 1 percent flood and the surrounding areas would be subject to potential flooding.

The proposed project would insure that the 1 percent flood capacity would be provided with at least 1.5 feet of freeboard, per the Corps' interim Operation and Maintenance Manual, such that the facility would function as required in the Local Cooperation Agreement for the Corps' project upstream. The project would cost approximately $1.63 million and would be financed from two existing revenue sources.

When the risks of not meeting the requirements of the Local Cooperation Agreement and the potential flood damages are considered it is apparent that the proposed project is required to restore the 1 percent design capacity on the Guadalupe River from the SPRR to Highway 101. It is, therefore, recommended that the measures proposed in this report be approved.



MAP AND GENERAL PLAN

FOR

GUADALUPE RIVER

FROM

SOUTHERN PACIFIC RAILROAD TO HIGHWAY 101

Santa Clara Valley Water District

CENTRAL FLOOD CONTROL ZONE

PROJECT NO. 3015

INDEX

SHEET NO.	DESCRIPTION
1	LOCATION MAP AND TITLE SHEET
2–10	PROFILE

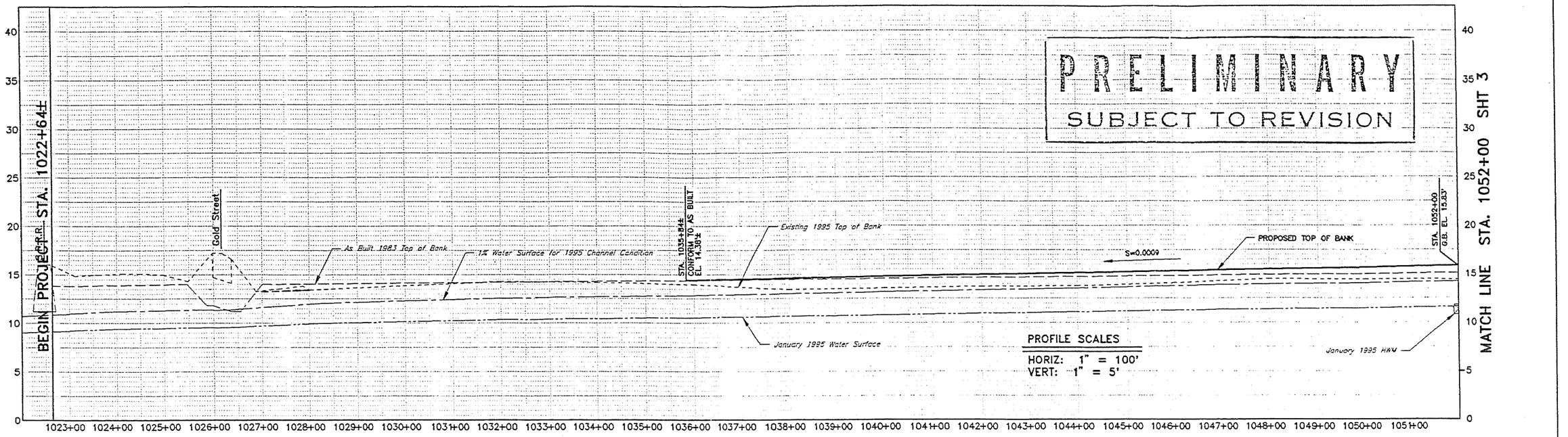
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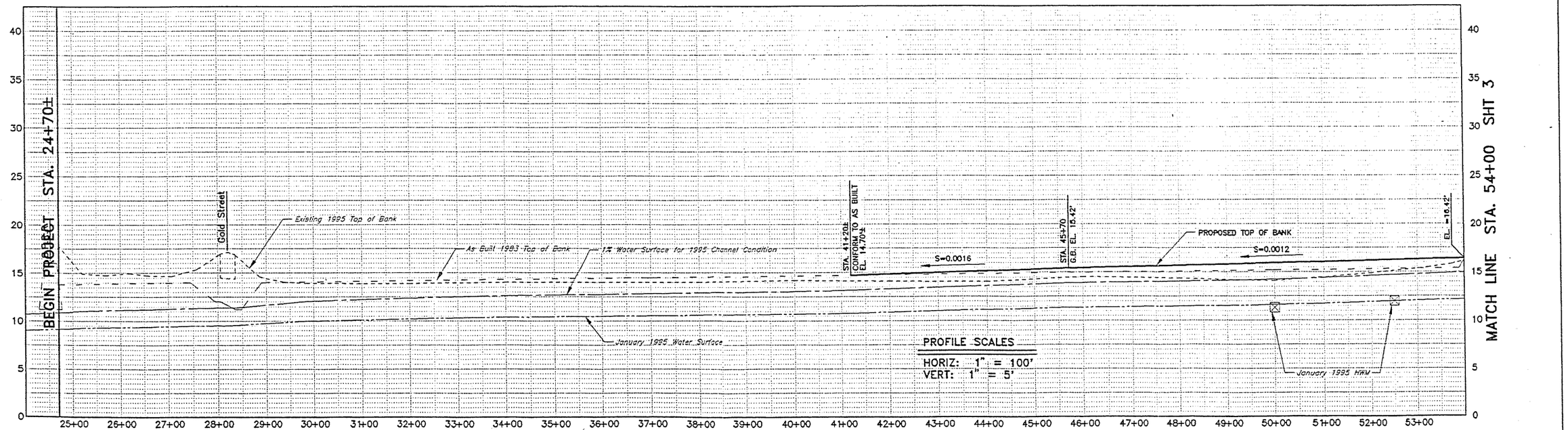
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REV	DESCRIPTION	DATE	APPR

REFERENCE INFORMATION AND NOTES

ABBREVIATIONS:

EL. = Elevation
G.B. = Grade Break
HWM = High Water Mark
STA. = Station

MICHELLE R. BRAVO — REGISTERED PROFESSIONAL ENGINEER — NO. 52106 EXP. 12/31/96 CIVIL — STATE OF CALIFORNIA

RANDALL R. TALLEY — REGISTERED PROFESSIONAL ENGINEER — NO. 25093 EXP. 12/31/97 CIVIL — STATE OF CALIFORNIA

DATE	07-19-95
DESIGN	R. BRAVO
DRAWN	J. ADACAG
CHECKED	R. BRAVO

Santa Clara Valley Water District

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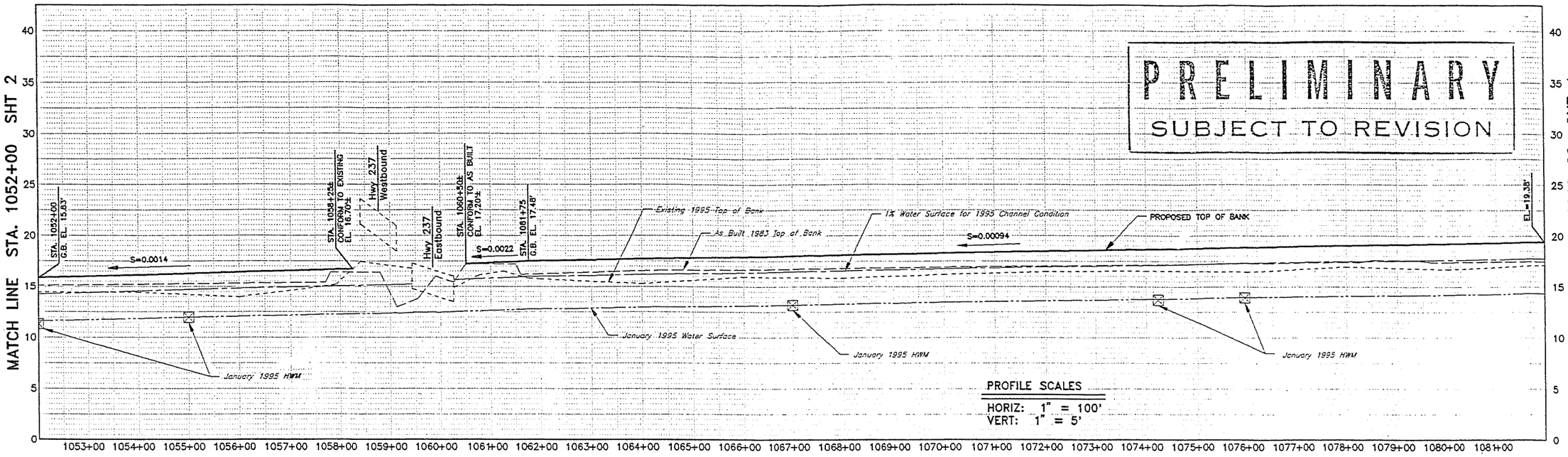
GUADALUPE RIVER
S.P.R.R. TO HWY 101
PROFILE

SCALE AS SHOWN

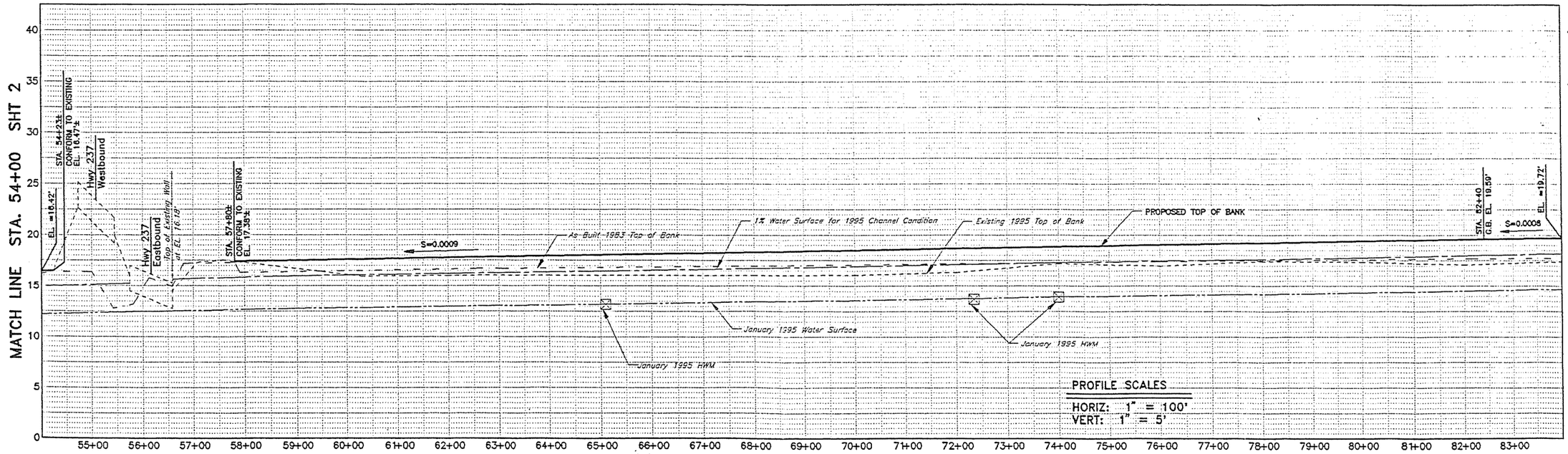
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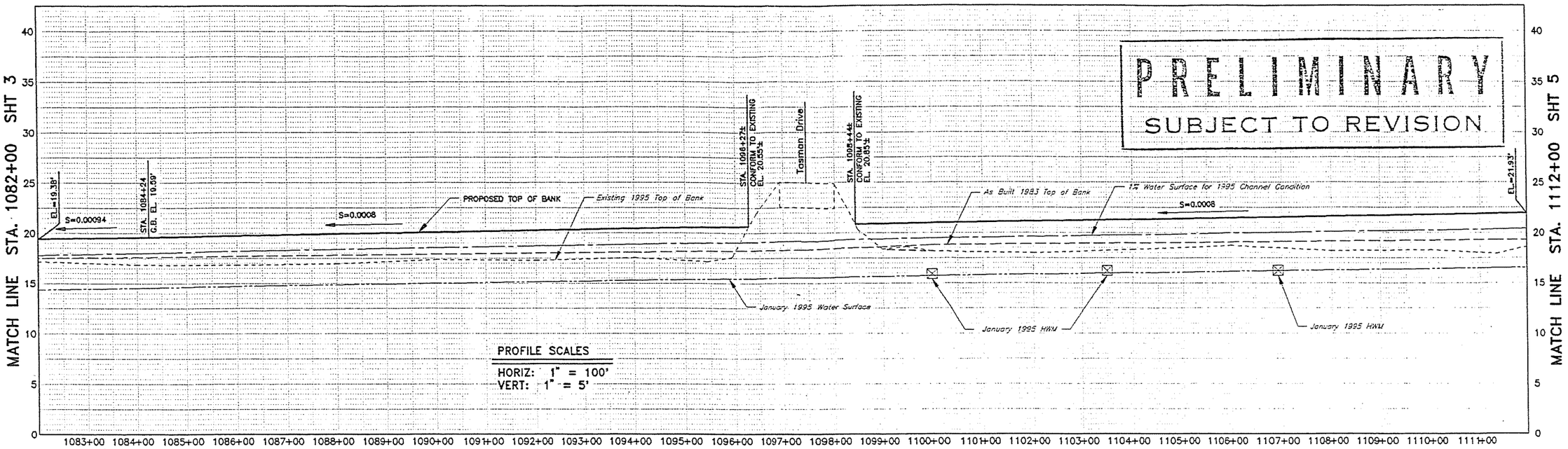
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S.P.R.R. TO HWY 101
PROFILE

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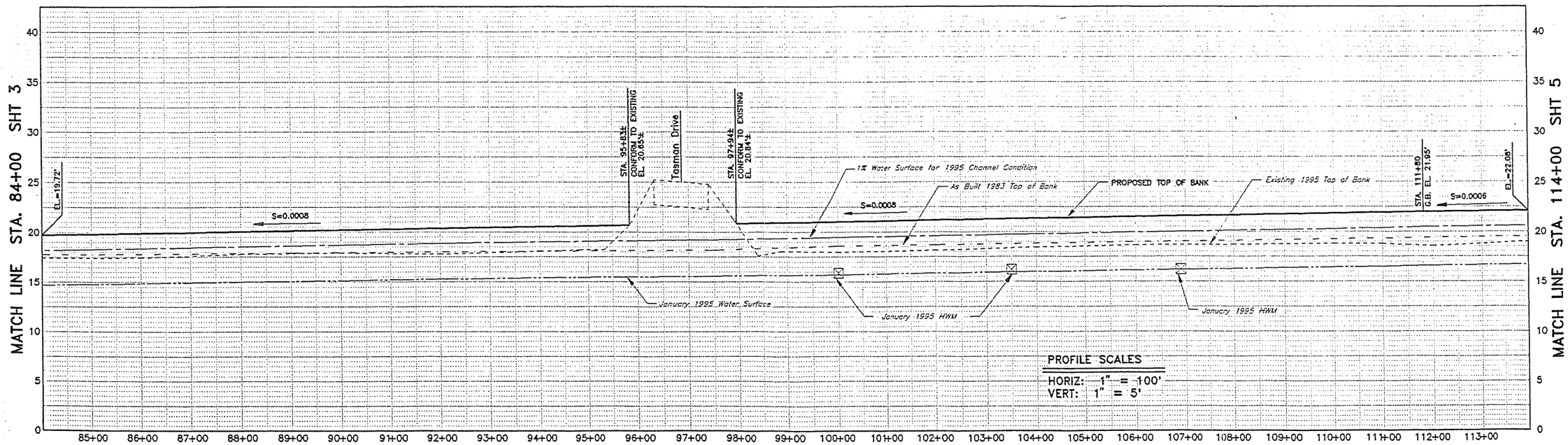
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MICHELLE R. BRAVO — No. 52106 — Exp. 12/31/98 — Civil — Registered Professional Engineer — State of California

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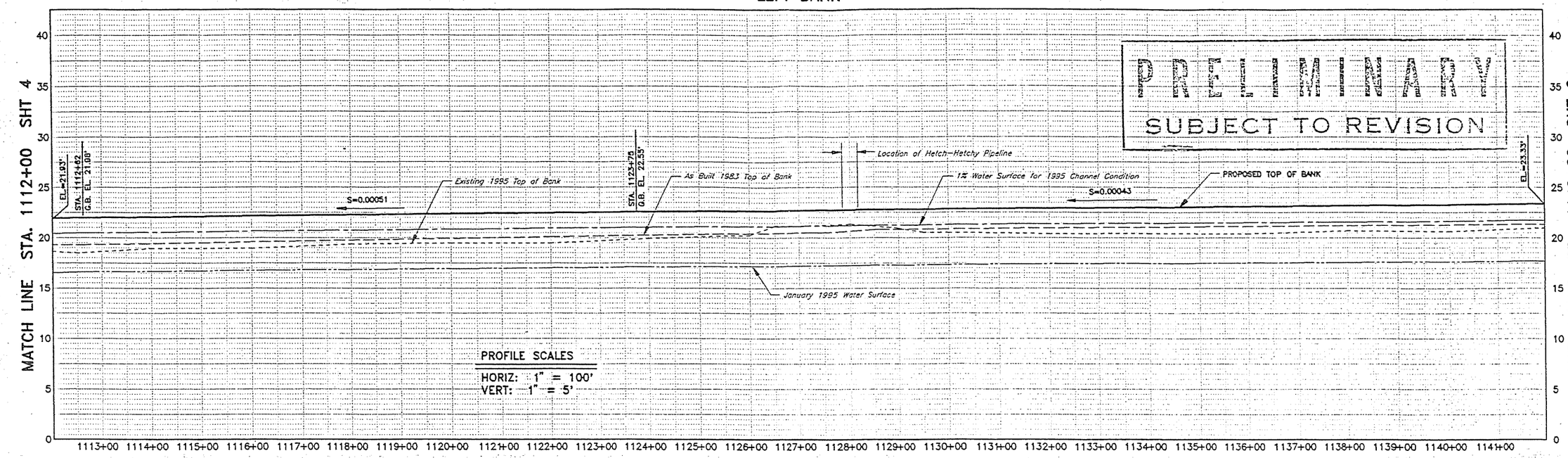
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S.P.R.R. TO HWY 101
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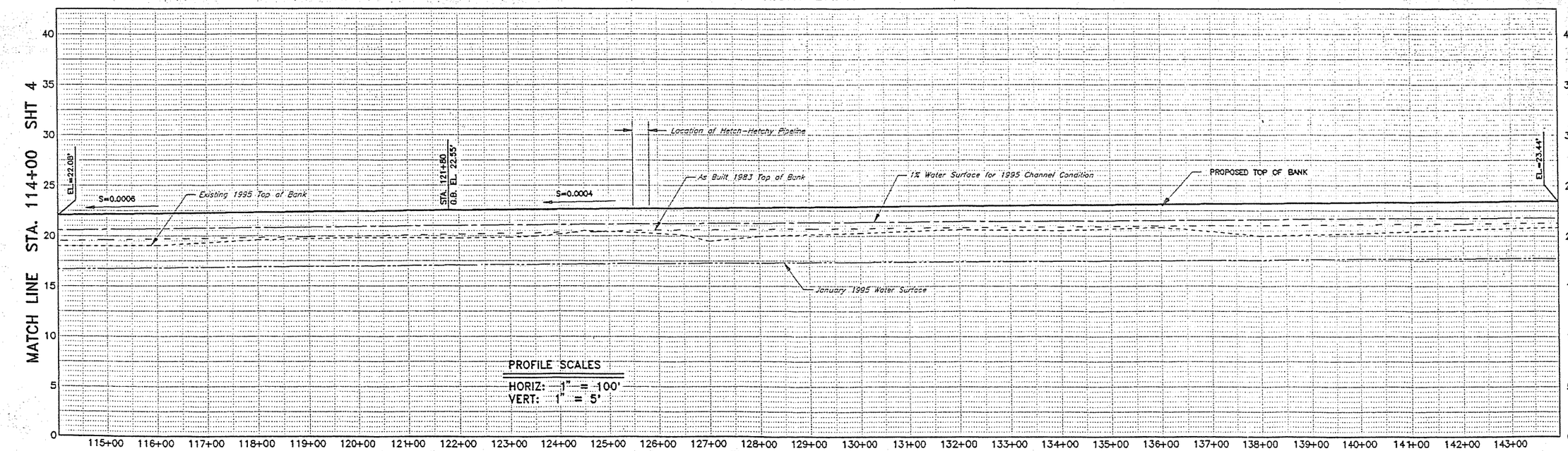
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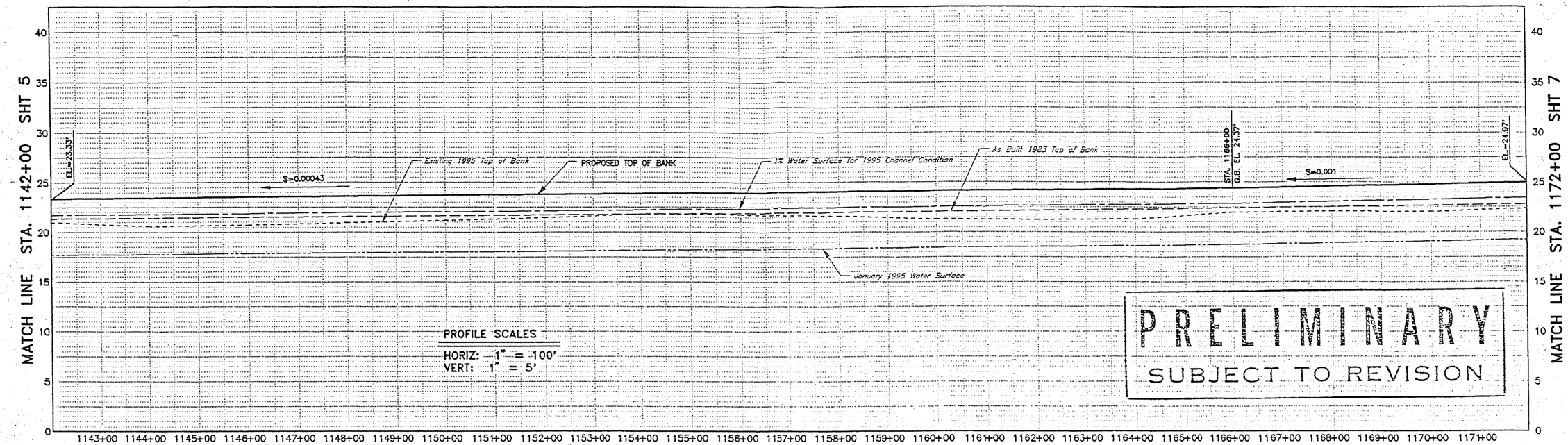
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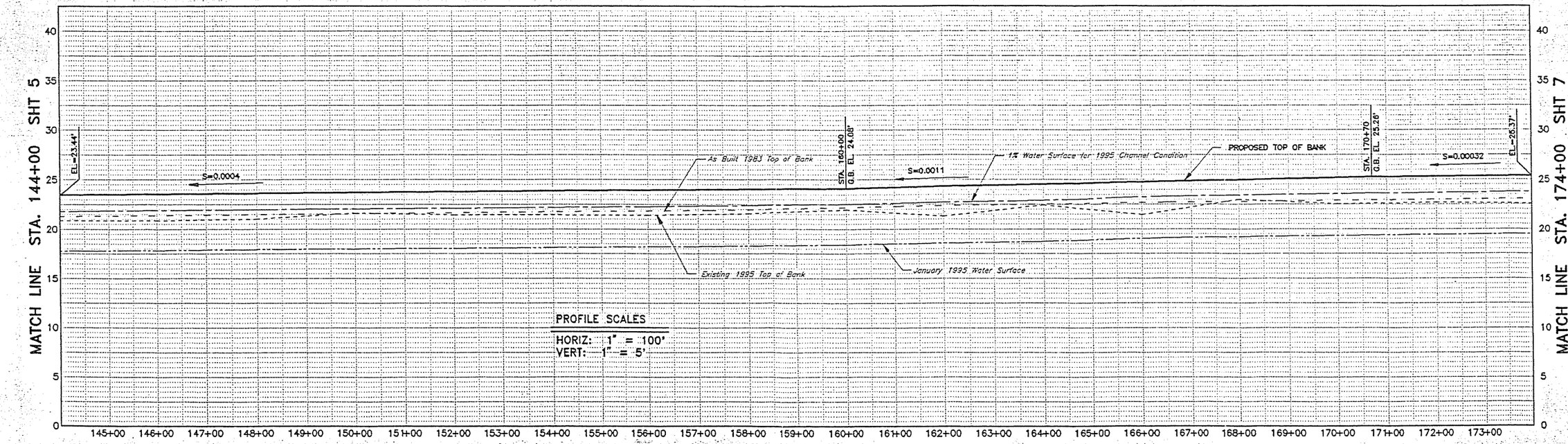
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PROFILE SCALES
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VERT: 1" = 5'

PRELIMINARY
SUBJECT TO REVISION

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PROFILE SCALES
HORIZ: 1" = 100'
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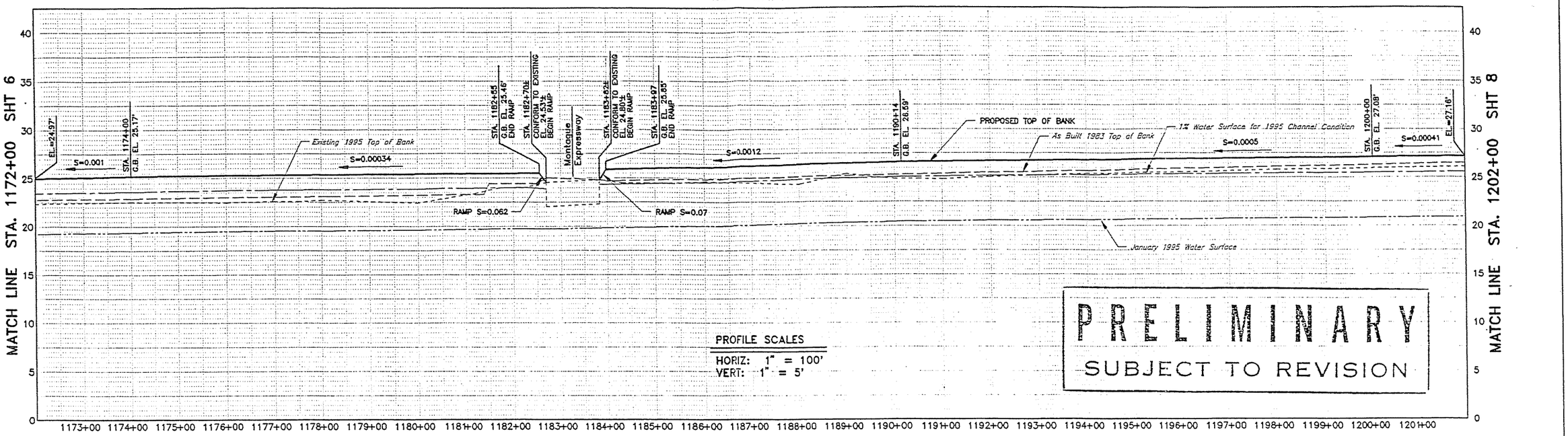
GUADALUPE RIVER
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SCALE AS SHOWN

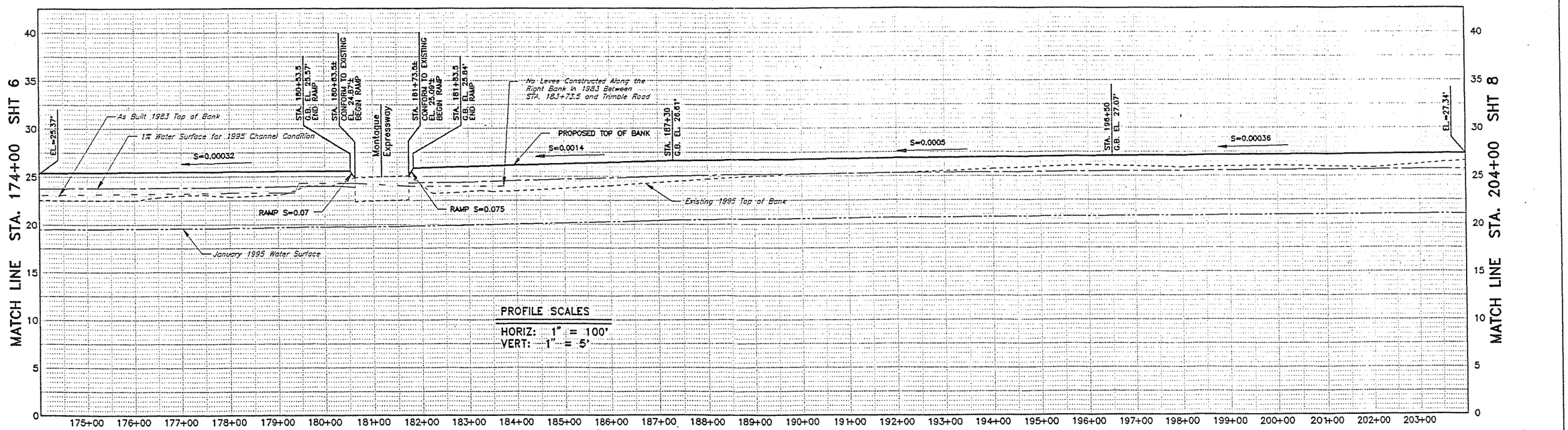
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REV	DESCRIPTION	DATE	APPR

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- STA. = Station

RECHELLE R. BRAVO NO. 52106 EXP. 12/31/96 CIVIL REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF CALIFORNIA

RANDALL R. TALLEY NO. 25093 EXP. 12/31/97 CIVIL REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF CALIFORNIA

DATE	07-19-95
DESIGN	R. BRAVO
DRAWN	J. ADAOAG
CHECKED	R. BRAVO

Santa Clara Valley Water District

ENGINEERING CERTIFICATION — PROJECT ENGINEER R.C.E. NO. 52106

ENGINEERING APPROVAL — DIVISION ENGINEER R.C.E. NO. 25093

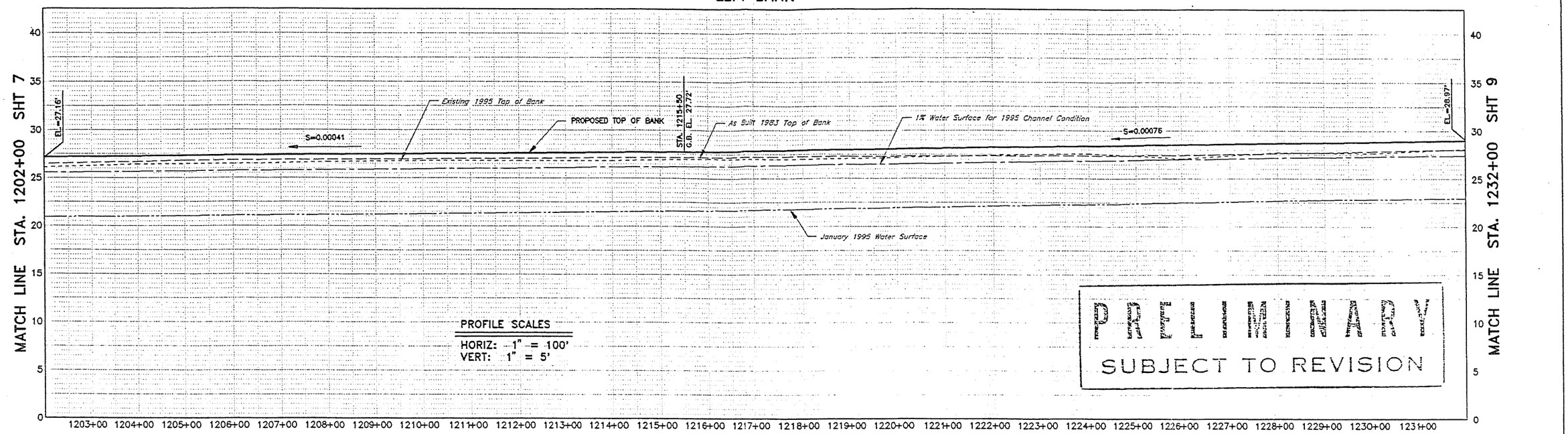
GUADALUPE RIVER
S.P.R.R. TO HWY 101
PROFILE

SCALE AS SHOWN

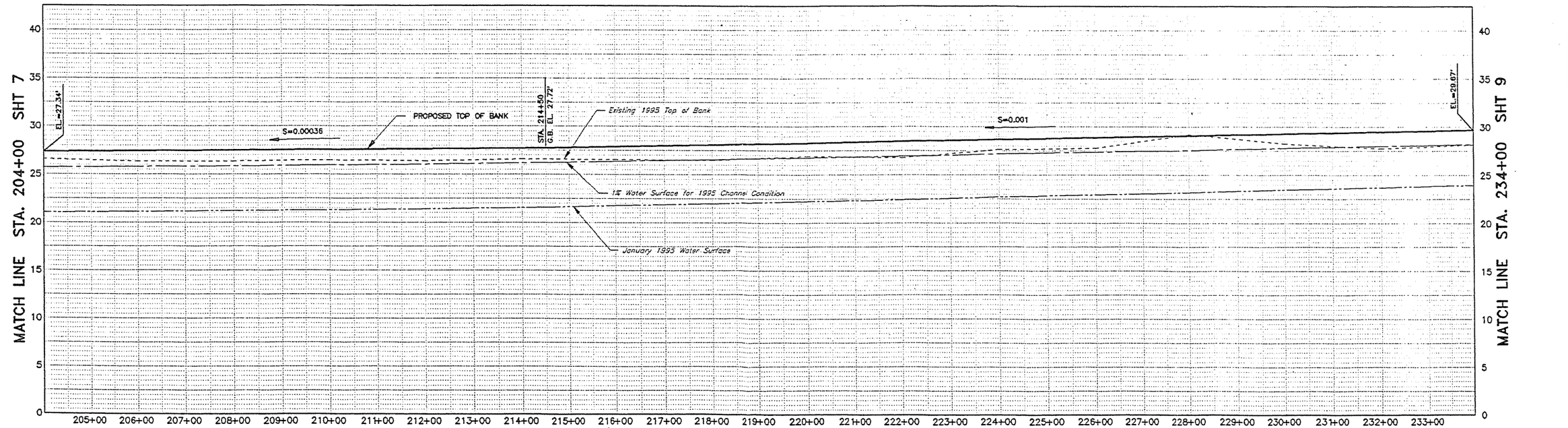
SHEET 7 OF 10

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REV	DESCRIPTION	DATE	APPR

REFERENCE INFORMATION AND NOTES

ABBREVIATIONS:
EL. = Elevation
G.B. = Grade Break
HWM = High Water Mark
STA. = Station

REGISTERED PROFESSIONAL ENGINEER — RACHELLE R. BRAVO — NO. 52106 — EXP. 12/31/96 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — RANDALL B. TALLEY — NO. 25093 — EXP. 12/31/97 — CIVIL — STATE OF CALIFORNIA

DATE	07-19-95
DESIGN	R. BRAVO
DRAWN	J. ADAOAG
CHECKED	R. BRAVO

Santa Clara Valley Water District

ENGINEERING CERTIFICATION
PROJECT ENGINEER R.C.E. NO. 52106

ENGINEERING APPROVAL
DIVISION ENGINEER R.C.E. NO. 25093

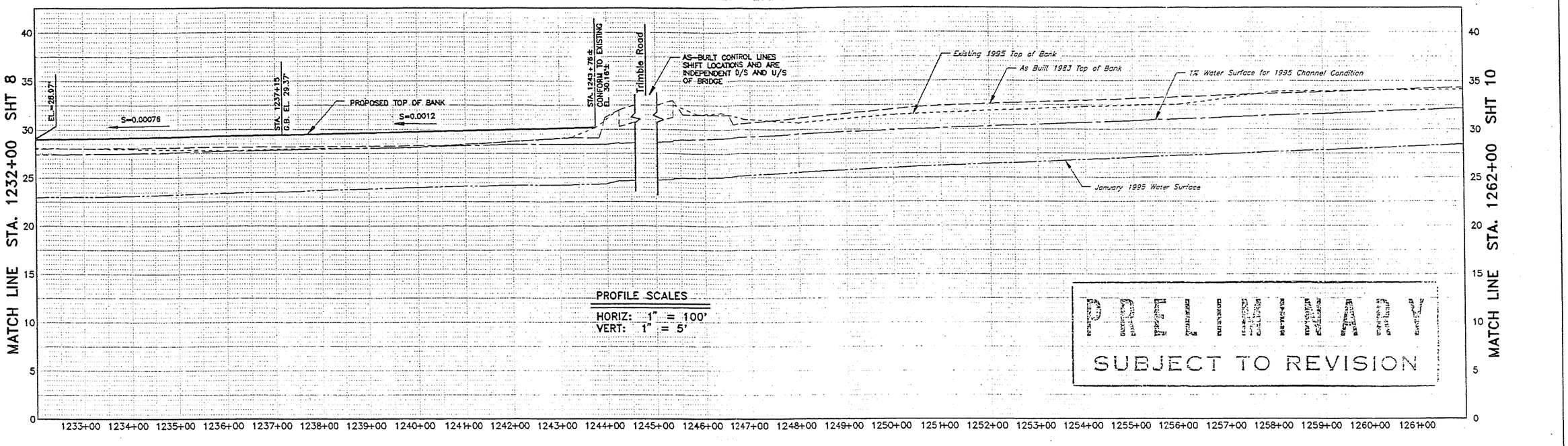
GUADALUPE RIVER
S.P.R.R. TO HWY 101
PROFILE

SCALE AS SHOWN

SHEET 8 OF 10

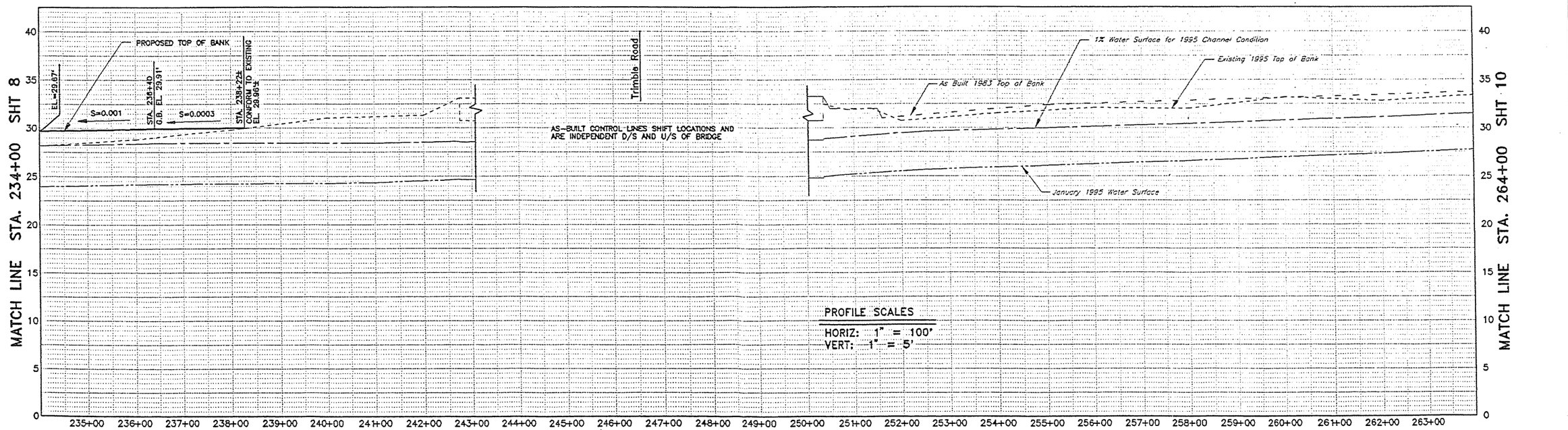
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PRELIMINARY
SUBJECT TO REVISION

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REV	DESCRIPTION	DATE	APPR

REFERENCE INFORMATION AND NOTES

ABBREVIATIONS:
- EL. = Elevation
- G.B. = Grade Break
- HWM = High Water Mark
- STA. = Station

MICHELLE R. BRAVO — REGISTERED PROFESSIONAL ENGINEER — NO. 52106 — EXP. 12/31/98 — CIVIL — STATE OF CALIFORNIA

RANDALL R. TALLEY — REGISTERED PROFESSIONAL ENGINEER — NO. 25093 — EXP. 12/31/97 — CIVIL — STATE OF CALIFORNIA

DATE	07-19-95
DESIGN	R. BRAVO
DRAWN	J. ADAGAG
CHECKED	R. BRAVO

Santa Clara Valley Water District

ENGINEERING CERTIFICATION — PROJECT ENGINEER — R.C.E. NO. 52106

ENGINEERING APPROVAL — DIVISION ENGINEER — R.C.E. NO. 25093

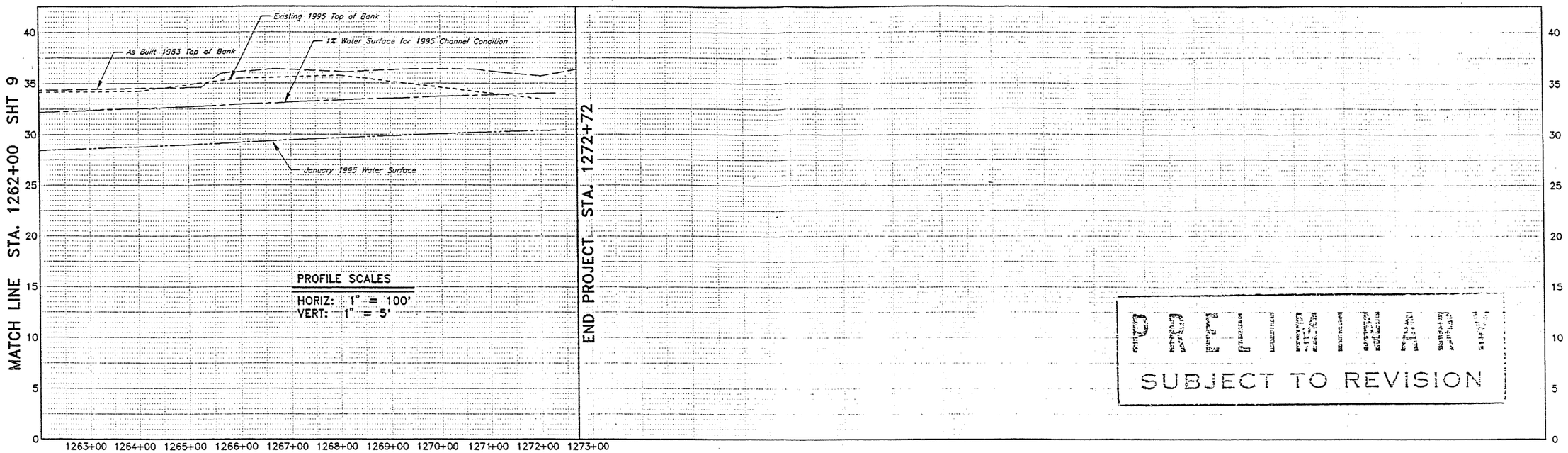
GUADALUPE RIVER
S.P.R.R. TO HWY 101
PROFILE

SCALE AS SHOWN

SHEET 9 OF 10

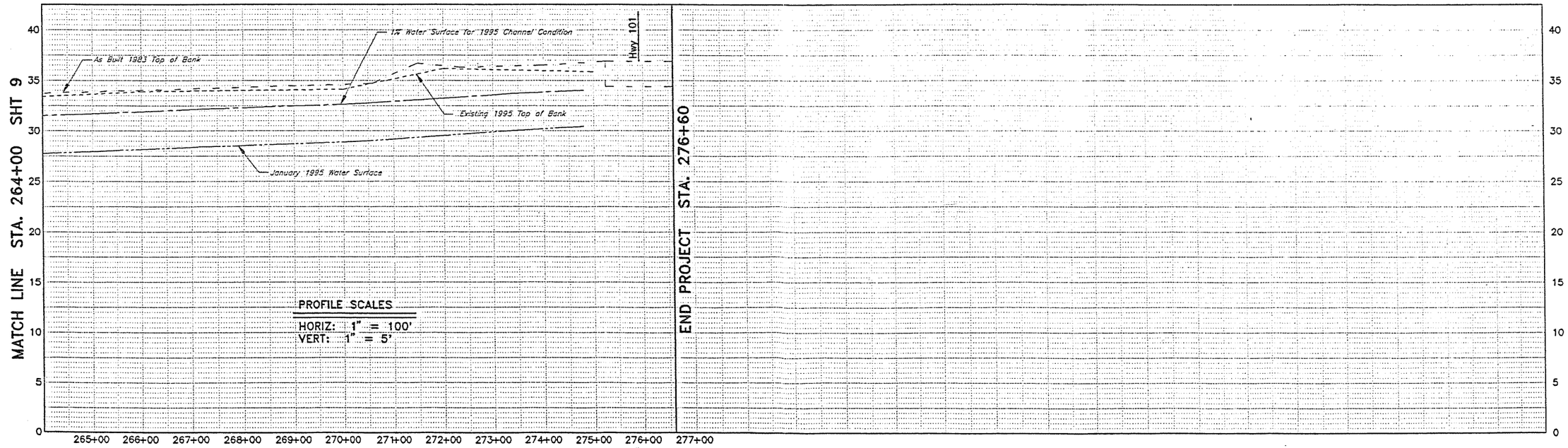
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SUBJECT TO REVISION

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REV	DESCRIPTION	DATE	APPR

REFERENCE INFORMATION AND NOTES

ABBREVIATIONS:
- EL. = Elevation
- G.B. = Grade Break
- HWM = High Water Mark
- STA. = Station

REGISTERED PROFESSIONAL ENGINEER — MICHELLE R. BRAVO — NO. 52108 — EXP. 12/31/96 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — RANDALL R. TALLEY — NO. 25093 — EXP. 12/31/97 — CIVIL — STATE OF CALIFORNIA

DATE	07-19-95
DESIGN	R. BRAVO
DRAWN	J. ADAOAG
CHECKED	R. BRAVO

Santa Clara Valley Water District

ENGINEERING CERTIFICATION — PROJECT ENGINEER — R.C.E. NO. 52108

ENGINEERING APPROVAL — DIVISION ENGINEER — R.C.E. NO. 15093

GUADALUPE RIVER
S.P.R.R. TO HWY 101
PROFILE

SCALE AS SHOWN

SHEET 10 OF 10

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APPENDIX A

VEGETATION AND SILT REMOVAL

VEGETATION AND SILT REMOVAL

		Reach 1				Reach 2			
		SPRR to 1500' d/s Hetch-Hetchy				1500' d/s Hetch-Hetchy to Montague Expwy			
Time		Location	Activity	Method	Quantity	Location	Activity	Method	Quantity
1995	Winter	SPRR to 880	pre emergent	mechanical	97 acre	SPRR to 880	pre emergent	mechanical	97 acre
		d/s 280	pre emergent	hand application	7.5 acre	d/s 280	pre emergent	hand application	7.5 acre
	Spring	d/s 280	post emergent	hand application	9.0 acre	d/s 280	post emergent	hand application	9.0 acre
1994	Winter	d/s 880	pre emergent	mechanical	69 acre	d/s 880	pre emergent	mechanical	69 acre
		d/s 280	pre emergent	hand application	3.8 acre	d/s 280	pre emergent	hand application	3.8 acre
	Summer	SPRR to 880	aquatic/woody	chemical	21.5 acre	SPRR to 880	aquatic/woody	chemical	21.5 acre
						d/s Montague	remove bamboo	hand labor	3.0 acre
	Fall	SPRR to 880	aquatic/woody	chemical	7.7 acre	SPRR to 880	aquatic/woody	chemical	7.7 acre
1993	Winter	d/s 880	pre emergent	mechanical	48.6 acre	d/s Montague	woody veg. control	hand labor	0.1 acre
		d/s 280	pre emergent	hand application	3.2 acre	d/s 880	pre emergent	mechanical	48.6 acre
						d/s 280	pre emergent	hand application	3.2 acre
	Spring								
	Summer	SPRR to 880	aquatic/woody	chemical	29.6 acre	SPRR to 880	aquatic/woody	chemical	29.6 acre
	Fall					d/s Montague	remove bamboo	hand labor	14.3 acre
1992	Winter	d/s 280	pre emergent	hand application	3.5 acre	d/s 280	pre emergent	hand application	3.5 acre
		d/s 880	pre emergent	mechanical	55.3 acre	d/s 880	pre emergent	mechanical	55.3 acre
	Summer								
	Fall	SPRR to 880	aquatic/woody	chemical	28.6 acre	SPRR to 880	aquatic/woody	chemical	28.6 acre
						d/s Montague	woody veg. control	hand labor	0.1 acre
	SR								
1991	Spring	u/s Gold St.	woody veg. control	hand labor	6 acre				
	Summer	SPRR to 880	aquatic/woody	chemical	75.9 acre	SPRR to 880	aquatic/woody	chemical	75.9 acre

SR - Silt Removal
d/s 280 - SPRR to 280 per M.Stone
d/s 880 - SPRR to 880 per M.Stone

VEGETATION AND SILT REMOVAL

		Reach 1				Reach 2			
		SPRR to 1500' d/s Hetch-Hetchy				1500' d/s Hetch-Hetchy to Montague Expwy			
Time		Location	Activity	Method	Quantity	Location	Activity	Method	Quantity
1990	Winter	d/s Hetch-Hetchy	woody veg. control	hand labor	0.5 acre	d/s Hetch-Hetchy	woody veg. control	hand labor	0.5 acre
		d/s 880	pre emergent	mechanical	60.8 acre	at Hetch-Hetchy	woody veg. control	hand labor	0.1 acre
						d/s 880	pre emergent	mechanical	60.8 acre
	Spring	d/s 880	woody veg. control	hand labor	15 acre	d/s Montague	woody veg. control	hand labor	3.5 acre
		d/s 880	post emergent	hand application	6 acre	d/s 880	woody veg. control	hand labor	15 acre
						d/s 880	post emergent	hand application	6 acre
	Summer	SPRR to 880	aquatic/woody	chemical	63 acre	SPRR to 880	aquatic/woody	chemical	63 acre
	Fall	d/s 880	kershaw	mechanical	26.5 acre	d/s 880	kershaw	mechanical	26.5 acre
	SR					d/s Montague to Hetch-Hetchy westerly low flow			10,600 cy
1989	Winter	d/s 880	pre emergent	mechanical	45.6 acre	d/s 880	pre emergent	mechanical	45.6 acre
		Montague to Tasman	woody veg. control	hand labor	0.8 acre	Montague to Tasman	woody veg. control	hand labor	0.8 acre
	Summer								
	SR					Montague to 800' u/s Hetch-Hetchy easterly low flow			10,000 cy
1988	Winter	SPRR to Hwy 17	pre emergent	mechanical	128.2 acre	SPRR to Hwy 17	pre emergent	mechanical	128.2 acre
	Summer					d/s Montague	woody veg. control	hand labor	
1987	Fall								
	SR					Montague to 800' u/s Hetch-Hetchy westerly low flow			

SR - Silt Removal
d/s 280 - SPRR to 280 per M.Stone
d/s 880 - SPRR to 880 per M.Stone

VEGETATION AND SILT REMOVAL

		Reach 3				Reach 4			
		Montague Expressway to Trimble Road				Trimble Road to Highway 101			
Time		Location	Activity	Method	Quantity	Location	Activity	Method	Quantity
1995	Winter	SPRR to 880	pre emergent	mechanical	97 acre	SPRR to 880	pre emergent	mechanical	97 acre
		d/s 280	pre emergent	hand application	7.5 acre	d/s 280	pre emergent	hand application	7.5 acre
	Spring	d/s 280	post emergent	hand application	9.0 acre	d/s 280	post emergent	hand application	9.0 acre
1994	Winter	d/s 880	pre emergent	mechanical	69 acre	d/s 880	pre emergent	mechanical	69 acre
		d/s 280	pre emergent	hand application	3.8 acre	d/s 280	pre emergent	hand application	3.8 acre
	Summer	SPRR to 880	aquatic/woody	chemical	21.5 acre	SPRR to 880	aquatic/woody	chemical	21.5 acre
	Fall	SPRR to 880	aquatic/woody	chemical	7.7 acre	SPRR to 880	aquatic/woody	chemical	7.7 acre
1993	Winter	d/s 880	pre emergent	mechanical	48.6 acre	d/s 880	pre emergent	mechanical	48.6 acre
		d/s 280	pre emergent	hand application	3.2 acre	d/s 280	pre emergent	hand application	3.2 acre
	Spring	u/s Montague	woody veg. control	hand labor					
	Summer	SPRR to 880	aquatic/woody	chemical	29.6 acre	SPRR to 880	aquatic/woody	chemical	29.6 acre
	Fall	d/s Trimble	kershaw	mechanical	4.3 acre				
1992	Winter	d/s 280	pre emergent	hand application	3.5 acre	d/s 280	pre emergent	hand application	3.5 acre
		d/s 880	pre emergent	mechanical	55.3 acre	d/s 880	pre emergent	mechanical	55.3 acre
	Summer								
	Fall	SPRR to 880	aquatic/woody	chemical	28.6 acre	SPRR to 880	aquatic/woody	chemical	28.6 acre
		u/s Montague	kershaw	mechanical					
	SR	Montague to Trimble by-pass channel			13,530 cy				
1991	Spring								
	Summer	SPRR to 880	aquatic/woody	chemical	75.9 acre	SPRR to 880	aquatic/woody	chemical	75.9 acre

SR - Silt Removal
d/s 280 - SPRR to 280 per M.Stone
d/s 880 - SPRR to 880 per M.Stone

VEGETATION AND SILT REMOVAL

		Reach 3				Reach 4			
		Montague Expressway to Trimble Road				Trimble Road to Highway 101			
Time		Location	Activity	Method	Quantity	Location	Activity	Method	Quantity
1990	Winter	d/s 880	pre emergent	mechanical	60.8 acre	d/s 880	pre emergent	mechanical	60.8 acre
						d/s 101	kershaw	mechanical	15 mh
	Spring	d/s 880	woody veg. control	hand labor	15 acre	d/s 880	woody veg. control	hand labor	15 acre
		d/s 880	post emergent	hand application	6 acre	d/s 880	post emergent	hand application	6 acre
	Summer	SPRR to 880	aquatic/woody	chemical	63 acre	SPRR to 880	aquatic/woody	chemical	63 acre
	Fall	d/s 880	kershaw	mechanical	26.5 acre	d/s 880	kershaw	mechanical	26.5 acre
	SR								
1989	Winter	d/s 880	pre emergent	mechanical	45.6 acre	d/s 880	pre emergent	mechanical	45.6 acre
		101 to Montague	woody veg. control	hand labor	59 acre	101 to Montague	woody veg. control	hand labor	59 acre
	Summer	Trimble to Montague	woody veg. control	hand labor	2.8 acre				
	SR								
1988	Winter	SPRR to Hwy 17	pre emergent	mechanical	128.2 acre	SPRR to Hwy 17	pre emergent	mechanical	128.2 acre
	Summer					880 to Trimble	woody veg. control	chemical	43.4 acre
1987	Fall					d/s 101	pre emergent	mechanical	64.5 acre
	SR								

SR - Silt Removal
d/s 280 - SPRR to 280 per M.Stone
d/s 880 - SPRR to 880 per M.Stone

APPENDIX B

(ADDENDUM)

ENVIRONMENTAL REVIEW

CATEGORICAL EXEMPTION

Santa Clara Valley Water District

MEMORANDUM

FC 14A (06-28-93)

TO: Randy Talley

FROM: Cindy Roessler

SUBJECT: Guadalupe River Capacity Restoration, Environmental Review

DATE: July 5, 1995

SUMMARY

The Guadalupe River Capacity Restoration project will restore the 1 percent flow capacity (17,000 cubic feet per second) for the Guadalupe River by raising levees and removing vegetation in selected locations between the Southern Pacific Railroad (SPRR) crossing in Alviso and Highway 101. Implementation of this work will begin in the summer of 1995 to provide protection prior to the start of winter rains. The vegetation removal activities could continue for 2 to 4 years until a more permanent solution is designed and implemented. The activities proposed under the Guadalupe River Capacity Restoration study are either consistent with the 1982 Environmental Impact Report (EIR) or are minor activities with no potential for environmental effect and, therefore, are exempt from additional review or are categorically exempt under the California Environmental Quality Act (CEQA). Subsequent long-term solutions will be reviewed in the future under CEQA, as necessary.

The different activities proposed under the Guadalupe River Capacity Restoration project are described below with an evaluation of their status under CEQA.

Restore levee heights to the "as-built" condition. A flood control project was designed and an EIR prepared under CEQA in 1982 for the Guadalupe River between the SPRR crossing and Highway 101[1]. The project was constructed in 1985 and consisted primarily of raising or relocating existing levees, constructing an excavated channel, and widening portions of the channel. As a result of settling, the existing levees are no longer the same height as originally built. The current project proposes placement of up to 4 feet of earthen material on the top of the settled levees to restore them to their original height.

Since the site has been previously disturbed by construction activities and the work area is very limited, there is no potential for significant environmental impacts. All work will be confined to the top and upper slope of the existing levees. The flat top of the levee is used as a maintenance road and is either bare or sparsely vegetated with annual grasses and weedy forbs, and thus does not provide any valuable wildlife habitat. This activity will not result in the filling of wetlands and will not remove any mature trees. The site does not contain any hazardous materials nor do the existing levees contain any cultural resources. The project is designed as an engineered facility and will not introduce any new geological hazards. Standard techniques will be used to protect water quality during construction such as excluding equipment from sensitive areas and stabilizing bare slopes to prevent erosion.

Land uses adjacent to the levees are primarily industrial with some residential areas occurring near Montague Expressway and upstream of Gold Street. These land uses are generally screened from the levees by fences; therefore, restoration of the levees to their former height will not result in any new visual or aesthetic impacts. Construction noise and traffic will be temporary and minimal due to the setback of adjacent land uses.

---

[1]Santa Clara Valley Water District, September 1982, Planning Study, Consisting of the Engineer's Report and Focused Environmental Impact Report for Guadalupe River, Southern Pacific Railroad to Highway 101.

Because there is no potential for significant environmental impacts, restoring the levees to the "as-built" conditions qualifies for a Class 1 categorical exemption under CEQA as a repair of an existing facility involving negligible or no expansion of use beyond that previously existing.

Add Height to levees above the "as-built" condition. Up to approximately 2.5 feet of earthen material would be added to the top of the levees between SPRR and Trimble Road above the as-built conditions. To provide adequate access for maintenance vehicles, Geoweb, hilfiker wire, or similar soil reinforcement structures will be used to maintain a minimum levee top width of 12 feet without changing the base width or widening the inside slopes (see attached figure). The increase in levee height would be up to 2.7 feet from SPRR to 1,500 feet downstream of the Hetch Hetchy pipeline (Reach 1), from 1.2 to 2.7 feet from 1,500 feet downstream of Hetch Hetchy pipeline to Montague Expressway (Reach 2), and from 0.4 to 1.9 feet from Montague Expressway to Trimble Road (Reach 3).

All work will be confined to the top of the existing levees. This work will be conducted at the same time and in a similar manner as that described above for the "as-built" heights. As described above, the existing conditions provide negligible vegetation and wildlife habitat, and there is no potential for adverse impacts associated with cultural resources, hazardous materials, geologic hazards, water quality, noise, and traffic. Since adjacent land uses are set back or screened from the levees by fences, raising the levee height no more than 2.5 feet will not result in any significant visual or aesthetic impacts.

Adding height to the levees as proposed will not result in any significant environmental impacts. This activity qualifies as a Class 1 categorical exemption under CEQA as a minor alteration of an existing facility involving negligible expansion of use beyond that previously existing. Although the levees will be raised above their existing height, this will not expand the design capacity of the flood control facility. Rather, levee raising has been proposed as a short-term measure to restore the design capacity which has been reduced over the past 10 years by sedimentation and growth of vegetation in the channel.

Levee raising as proposed does not have the potential for any cumulative impacts. At this time, the levee raising activity will only occur in 1995 as part of the short-term project to restore capacity to the Guadalupe River. The design of any long-term project at this location is not currently known; however, if it will result in cumulative impacts, these will be reviewed as required under CEQA at that time.

Vegetation control consistent with the existing EIR. A vegetation control program will be implemented in a manner consistent with the maintenance activities described in the 1982 Guadalupe River EIR and Engineer's Report. This program will include a combination of mowing, herbicide spraying, and/or hand removal of brush and trees, depending on the location. Refer to the attachment for a description of the proposed vegetation control program. This work has already been evaluated under the existing EIR/Engineer's Report and does not require additional review at this time. It should be noted that the District intends to review its entire Districtwide vegetation control program under a future EIR to be completed in approximately 2 years.

I have attached a Preliminary Environmental Assessment for this project. Please have your Department Manager sign the form and return a copy of the signed form to me.

Cindy Roessler

Environmental Planner
Environmental Planning Division

Attachments

cc: B. Goldner, R. Bravo (w/att), J. Ortiz, M. Stone (w/att), C. Roessler (w/att), File, Read

CR:lcg

CT07031

SANTA CLARA VALLEY WATER DISTRICT

PRELIMINARY ENVIRONMENTAL ASSESSMENT

NAME OF PROJECT

Guadalupe River Capacity Restoration—Short-Term Project

LOCATION

Guadalupe River from the Southern Pacific Railroad crossing to Highway 101, Cities of San Jose and Santa Clara

STAFF DETERMINATION

The District's staff, having undertaken and completed a preliminary environmental assessment of this project in accordance with the District's resolution entitled "Adopting District Guidelines Governing Compliance with the California Environmental Quality Act of 1970, as Amended," has concluded that this project does not require further environmental assessment because:

_____ The proposed action does not constitute a project within the meaning of Section 15378.

_____ The project is a Ministerial Project under Section 15268.

_____ The project is an Emergency Project under Section 15269.

_____ The project constitutes a feasibility or planning study under Section 15262.

__X__ The project is Categorically Exempt under Section

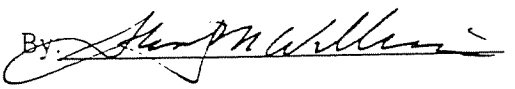
Applicable Exemption Class 1 Repair and Minor Alteration of an Existing Facility or has been reviewed under a previous Environmental Impact Report

_____ The project involves another public agency which constitutes the Lead Agency.

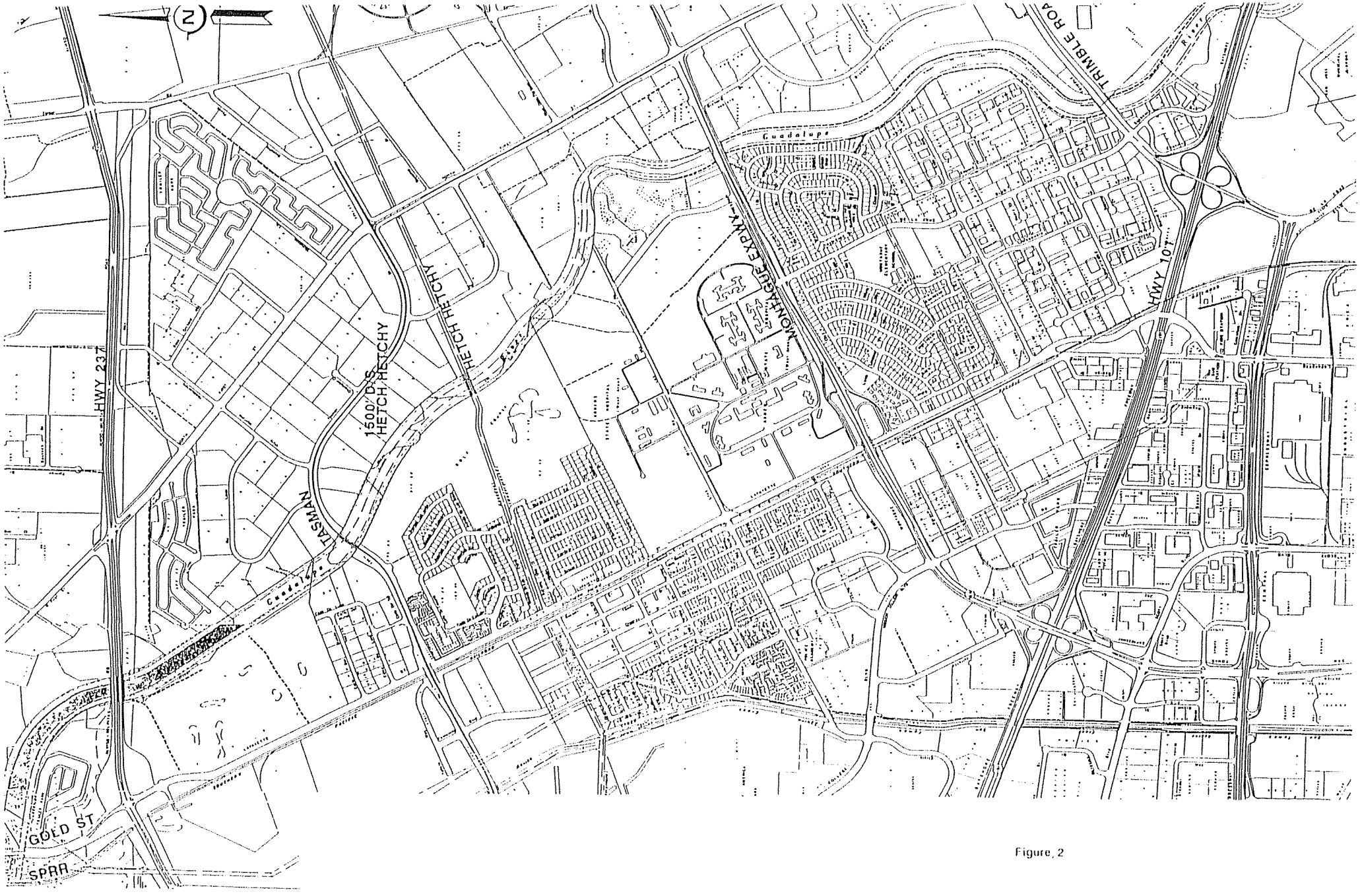
Name of Lead Agency Santa Clara Valley Water District

Stanley Williams
General Manager

Date: July 25, 1995

By: 

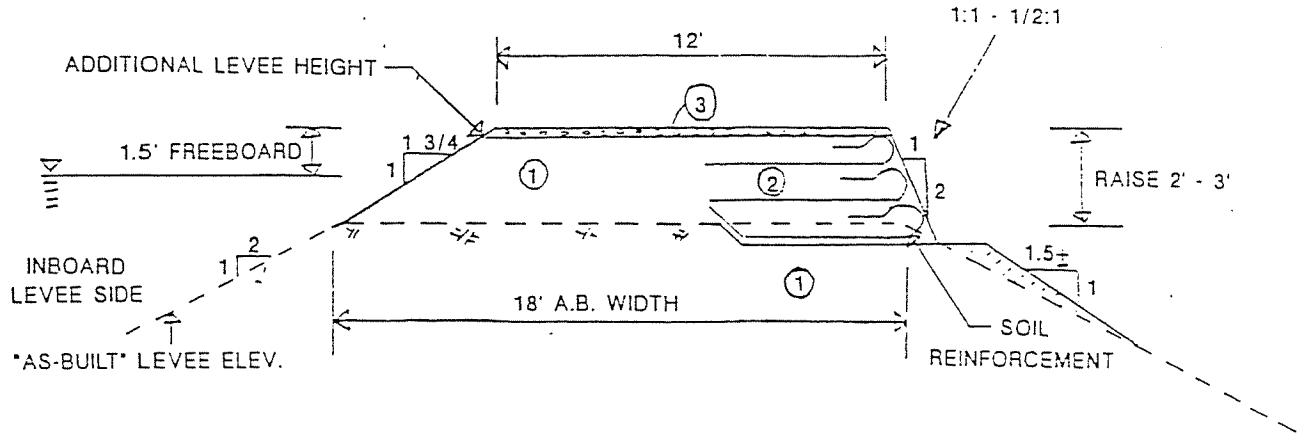
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HWY 237
1500' D.S.
HETCH HETCHY
HETCH HETCHY
TASMAN
EXPWY
HWY 101
TRIMBLE ROA
GOLD ST
SPRR

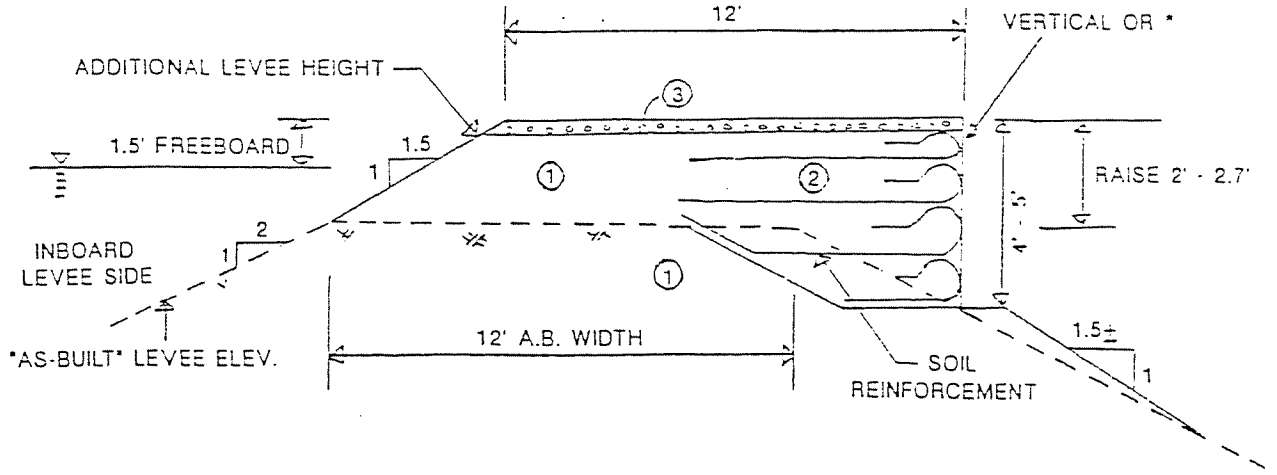
Figure, 2

Option 1

Add Height to the Levees Above the "As-Built" Condition



SPRR to 1500' d/s HETCH-HETCHY



* OR USE 1/2:1 BOTH SIDES (INSTEAD OF 1.5:1 CREEKSIDE AND VERTICAL OTHER SIDE)

1500' d/s HETCH-HETCHY to TRIMBLE ROAD

MATERIALS FILL:

① IMPERVIOUS SANDY CLAY, P.I ≤ 25

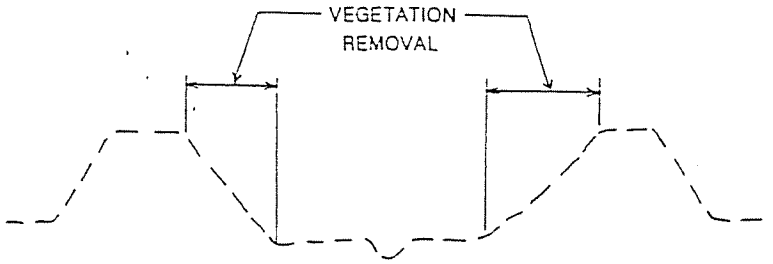
② SEMI-IMPERVIOUS, OR STRUCTURAL BACKFILL, P.I ≤ 1.5±

③ 4" AGGREGATE BASE SURFACING

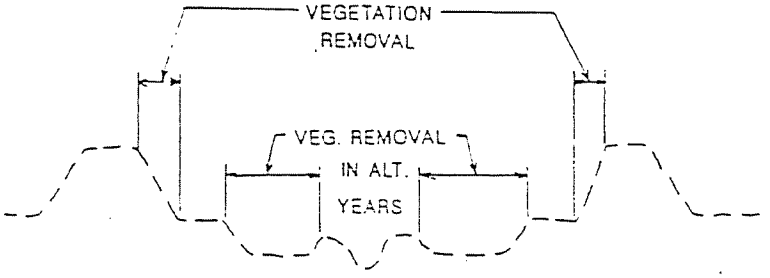
Figure 5

No Project Option

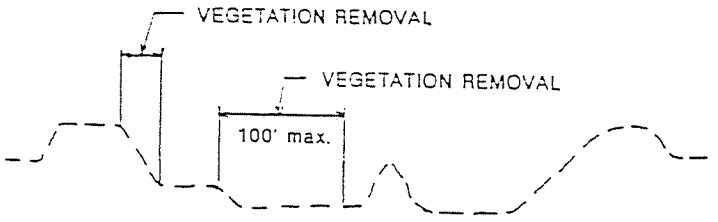
(SECTIONS LOOKING UPSTREAM)



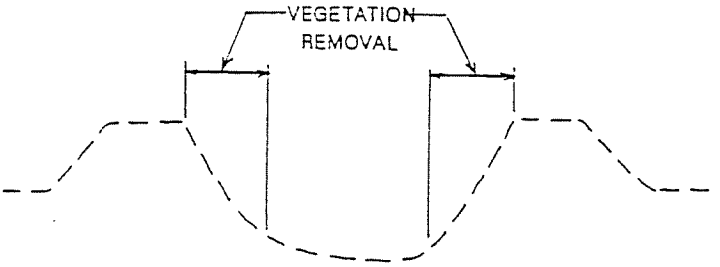
SPRR to 1500 FT. DOWNSTREAM OF HETCH-HETCHY



1500 FT. DOWNSTREAM OF HETCH-HETCHY to MONTAGUE EXPRESSWAY



MONTAGUE EXPRESSWAY to TRIMBLE ROAD



TRIMBLE ROAD to HIGHWAY 101

Figure 4

starting the work.

All vegetation will be cleared 100 feet upstream of Montague Expressway and 100 feet downstream of Trimble Road which is in compliance the 1983 EIR and with the MOU with the California Department of Fish and Game.

Reach 4, Trimble Road to Highway 101

The inboard levee slope of the east bank will be mowed and then sprayed for broadleaf weeds. This work is scheduled for July and is in compliance the 1983 EIR and with the MOU with the California Department of Fish and Game.

Coyote brush will also be removed from the east bank. This work is in compliance the 1983 EIR and with the MOU with the California Department of Fish and Game. Under the MOU for this area, woody vegetation removal on side slopes requires that the Department of Fish and Game biologist write a letter of approval prior to starting the work.

All vegetation will be cleared 100 feet upstream of Trimble Road which is in compliance the 1983 EIR and with the MOU with the California Department of Fish and Game.

APPENDIX C

(ADDENDUM)

CALIFORNIA DEPARTMENT OF FISH AND GAME

MOU LETTER OF APPROVAL AND 1601 AGREEMENT

Inter-Govt: State Fish + Game Dept.

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME

Improved Channels MOU

Post Office Box 1723
Gilroy, California 95021

July 14, 1995

Ms. Mary Stone
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, California 95118-3686

Dear Ms. Stone:

In response to our July 10, 1995, telephone conversation, this letter will serve a approval for the maintenance activities described herein. Under the Department's Memorandum of Understanding with the District for "Routine Maintenance Activities in Improved Channels," the District may remove fallen trees and branches and associated debris in the channel to maintain channel design capacity (Part II, Section H). No trees or branches that are perched or in imminent danger of falling shall be removed at this time, pending a survey identifying the trees under consideration for removal (per June 19, and July 10, 1995, telephone conversations). This approach enables the Department to determine the magnitude of removal and clearing that may occur, so that we can better identify the environmental impacts associated with this activity.

If you have any questions please feel free to call me at (408) 842-8917.

Sincerely,

Margaret A. Roper

Margaret A. Roper
Fishery Biologist
Region 3

bc: M. Roper, K. Anderson, G. Combes

State of California

Memorandum

COPY

To : Gary Combes
Warden

Date : 11 August 1995

From : Department of Fish and Game

Margaret Roper, Fishery Biologist

Subject : Guadalupe River: Streambed Alteration Agreement #723-95
Conditions For Inclusion

These are the conditions I would like included in the Agreement. I met on-site with Dennis Ely today and we discussed the approach to the selective pruning and trimming of trees downstream of Montague Expressway on the river.

1. On the right bank (looking downstream from Montague Expressway), pruning of limbs will be allowed as per agreement in the field marked on the first cottonwood stand. This elevation was surveyed as 1.5 feet below the Montague Bridge soffit. Cutting of tree trunks will be allowed as marked in the field with paint.

2. On the left bank (looking downstream from Montague Expressway), pruning of limbs will be allowed as per agreement in the field as surveyed as 1.5 feet below the Montague Bridge soffit. Limbs are defined for this activity as being four (4) inches in diameter or less at their base. No tree trunks will be cut on this bank.

3. On both banks, broken or dead hanging limbs that are attached above the pruning line can be pruned at the break point.

4. All pruned and cut material, from both banks, shall be removed off site.

5. Previously trimmed tree material shall be removed off site.

6. Dead standing trees can be cut.

7. These activities are confined to the downstream riparian vegetation that is between Montague Expressway and the island (Approximately 600 feet). **Gary you might want to check this distance with Dennis for accuracy. I don't want them doing anymore further downstream of this stand.**

8. All debris, deposited during winter storms on both banks, shall be removed off site.

Notification No. [illegible] THP No. _____

AGREEMENT REGARDING PROPOSED STREAM OR LAKE ALTERATION

THIS AGREEMENT, entered into between the State of California, Department of Fish and Game, hereinafter called the Department, JOSE ORTIZ-SCHOOL & 5TH ALMADEN FAMILY of SAN JOSE, State of CA 95118, hereinafter called the operator, is as follows:

WHEREAS, pursuant to Division 2, Chapter 6 of California Fish and Game Code, the operator, on the 25 day of JULY, 19 25, notified the Department that he intends to substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of, the following water: GUADALUPE RIVER, in the County of SANTA CLARA, State of California, S_____ T_____ R_____.

WHEREAS, the Department (represented by CP Coast has made an inspection of subject area on the _____ day of JULY, 19 25, and) has determined that such operations may substantially adversely affect existing fish and wildlife resources including: CALIFORNIA

THEREFORE, the Department hereby proposes measures to protect fish and wildlife during the operator's work. The operator hereby agrees to accept the following recommendations as part of his work: Numbers 1 7 [illegible] from the list of recommendations on the back of this page and the following special recommendations:

1. All work in or near the stream or lake shall be confined to the period [illegible]

2) ALL WORK ON THE PROJECT SITE [illegible]

3) REMOVE [illegible]

The operator, as designated by the signature on this agreement, shall be responsible for the execution of all elements of this agreement. A copy of this agreement must be provided to contractors and subcontractors and must be in their possession at the work site.

If the operator's work changes from that stated in the notification specified above, this agreement is no longer valid and a new notification shall be submitted to the Department of Fish and Game. Failure to comply with the provisions of this agreement and with other pertinent Code Sections, including but not limited to Fish and Game Code Sections 5650, 5652 and 5948, may result in prosecution.

Nothing in this agreement authorizes the operator to trespass on any land or property, nor does it relieve the operator of responsibility for compliance with applicable federal, state, or local laws or ordinances.

THIS AGREEMENT IS NOT INTENDED AS AN APPROVAL OF A PROJECT OR OF SPECIFIC PROJECT FEATURES BY THE DEPARTMENT OF FISH AND GAME. INDEPENDENT REVIEW AND RECOMMENDATIONS WILL BE PROVIDED BY THE DEPARTMENT AS APPROPRIATE ON THOSE PROJECTS WHERE LOCAL, STATE, OR FEDERAL PERMITS OR OTHER ENVIRONMENTAL REPORTS ARE REQUIRED.

This agreement becomes effective on [illegible]

Operator [illegible]

Title [illegible]

Organization [illegible]

Date [illegible]

[illegible]
Department Representative

Title [illegible]

Department of Fish and Game, State of California

Date [illegible]

*If inspection was not made, cross out words within parentheses.

APPENDIX D

(ADDENDUM)

BOARD OF DIRECTORS AGENDA MEMORANDUMS

CONFORMED COPY

FC 1025 (01-13-92)

AGENDA MEMORANDUM

AGENDA DATE 7/11/95 ITEM NO. 7 DEPARTMENT Flood Control

ZONE C PROJECT NO. _____ NAME Guadalupe River—Southern Pacific Railroad to Highway 101

SUBJECT: Engineer's Report for Urgent Remedial Flood Control Measures on Guadalupe River From Southern Pacific Railroad to Highway 101 (San Jose/Santa Clara)
i) Resolution

RECOMMENDATION:

That the Board adopt the resolution specifying intention to undertake work of improvement within the Central Zone of Santa Clara Valley Water District and providing for notice of time and place of public hearing.

RATIONALE:

Board had requested an action plan for responding to high water observed on Guadalupe River at San Tomas Creek. The action plan was presented to the Board on June 20. This Engineer's Report is the first element of that plan requiring Board action.

BACKGROUND:

Levees were constructed and the channel excavated on Guadalupe River between the Southern Pacific Railroad and Highway 101 in 1983. These flood protective walls were designed to contain the 1 percent flood event at 17,000 cubic feet per second. During the floods of January and March 1995, unexpectedly high flood stages were observed. An analysis determined that the flood events corresponded to a 15- and 25-year return period and that the creek had experienced a 40 percent loss of capacity due to sedimentation and vegetation. Staff was directed by the Board to prepare a plan for remedial action to restore the creek capacity.

The Engineer's Report presents five options that were investigated as possible solutions. The recommended plan is a combination of continued maintenance programs and levee construction and is described in attached report. The estimated project cost is $1.63 million.

An environmental assessment of the project has been made, and it has been determined to be categorically exempt from the California Environmental Quality Act.

FINANCIAL IMPACT:

The project cost is $1.63 million which when approved will require a transfer from the reserves to a newly created capital project ($1.4 million) and to the maintenance program ($230,000). All work is proposed to be done by District forces utilizing the equipment rental contract to be presented to the Board for bid approval on July 18, 1995.

The Board will be asked to authorize the budget adjustment upon approval of the planning study.

CT0622h

AUTHORIZED

7 : 95

RESOLUTION NO. 95- 54

SPECIFYING INTENTION TO UNDERTAKE
WORK OF IMPROVEMENT WITHIN THE CENTRAL ZONE
OF SANTA CLARA VALLEY WATER DISTRICT
AND PROVIDING FOR NOTICE OF TIME
AND PLACE OF PUBLIC HEARING THEREON

WHEREAS, the Central Zone of Santa Clara Valley Water District has been duly and regularly established and exists pursuant to the provisions of the Santa Clara Valley Water District Act; and

WHEREAS, on the 11th day of July 1995 the report of the District's engineer was duly filed with this Board containing information in regard to a work of improvement ("project") for Guadalupe River in said Zone showing:

1. A general description of the project together with general plans and profiles relating thereto;

2. A general description of and maps showing the location of the proposed project and the lands, rights of way, and easements required therefor; and

3. An estimate of the cost of the proposed project and means of financing these costs;

NOW, THEREFORE, be it resolved by the Board of Directors of Santa Clara Valley Water District as follows:

SECTION 1

Subject, nevertheless, to a determination whether to proceed with the project following the public hearing thereon hereinafter provided for; it is hereby found and determined:

a. That the public interest and convenience require and it is the intention of this Board to undertake said project within said Zone in accordance with the Engineer's Report heretofore filed on the 11th day of July 1995 with this Board, to which said report, together with the maps showing the general location and general construction of the said project in said report contained, reference is hereby made for further particulars;

b. That this Board does hereby find and determine that the said proposed work is for the benefit of said Zone and this Board further determines and declares that the cost and expense of said work shall be chargeable and charged upon property within said Zone;

SECTION 2

That the engineer of this District has estimated the approximate cost of the construction of said project for the said Zone to be $1,630,000 which costs shall be borne by the property within said Zone as aforesaid;

SECTION 3

That the aforesaid Engineer's Report, containing maps and general construction plans of the said Zone, showing the general location and general construction of said project, have been prepared by said District engineer for public inspection by any interested person and may be seen at the

Santa Clara Valley Water District	Alviso Branch Library
5750 Almaden Expressway	1060 Taylor Street
San Jose, CA 95118	San Jose, CA 95002

which are hereby designated as the public places where a copy of said maps, showing the location, and general construction plans of said project may be viewed; that such maps and plans shall be posted at said public places for at least 2 weeks prior to the public hearing hereby fixed;

SECTION 4

That the 25th day of July 1995 at the hour of 9 a.m. in the Santa Clara Valley Water District Board Room, 5750 Almaden Expressway, San Jose, California, be and the same are hereby fixed as the time and the place where this Board will consider all written and oral objections to the proposed project;

SECTION 5

That the Clerk of this Board be and she is hereby directed to cause notice to be given of said public hearing by the publication of a notice thereof once a week for two consecutive weeks prior to the date fixed for said public hearing, the last publication of which notice shall be at least 7 days before said hearing, in the San Jose Mercury, a newspaper of general circulation circulated in said Zone, and hereby designated by this Board to be the newspaper most likely to give notice of said public hearing to the residents and property owners in said Zone; said notice shall be in words and figures as follows, to wit:

NOTICE OF TIME AND PLACE OF PUBLIC HEARING ON PROPOSED WORK OF IMPROVEMENT AND COSTS THEREOF WITHIN THE CENTRAL ZONE OF SANTA CLARA VALLEY WATER DISTRICT

NOTICE IS HEREBY GIVEN that the 25th day of July 1995 at the hour of 9:10 a.m. in the Santa Clara Valley Water District Board Room, 5750 Almaden Expressway, San Jose, California, is the time when and the place where a public hearing will be held on the Resolution of the Board of Directors of the Santa Clara Valley Water District specifying intention to undertake a work of improvement ("project") within and for the benefit of the Central Zone of the Santa Clara Valley Water District;

That plans for the construction of said project are contained in an Engineer's Report of proposed improvements for the said Zone entitled "Guadalupe River Engineer's Report From Southern Pacific Railroad to Highway 101," which said report also contains maps of the Zone showing the general location and general construction of said project and is on file in the office of the Clerk of the Board of Directors, 5750 Almaden Expressway, San Jose, California, and may also be seen by an interested person at

Alviso Branch Library
1060 Taylor Street
San Jose, CA 95002

That the cost of the work to be borne by said Zone, according to engineering estimates is $1,630,000;

That at the time and place fixed for said hearing, or at any time to which said hearing may be continued, said Board will consider all written and oral objections to the proposed project; that upon the conclusion of the hearing the Board may abandon the proposed project or proceed with the same unless prior to the conclusion of said hearing written protests against the proposed project signed by a majority in number of the registered voters resident within said Zone be filed with the Board, in which event further proceedings relating to such project shall be suspended for not less than 6 months following the date of the conclusion of said hearing, or said proceedings may be abandoned in the direction of the Board;

That any registered voter residing within the District may file a written protest against the proposed project at said hearing prior to its conclusion, or such protest may be filed prior to the time of such hearing in the office of the Clerk of said District Board, 5750 Almaden Expressway, San Jose, California.

Dated: _____

_____
Susan A. Pino
Clerk/Board of Directors

Resolution Specifying Intention to Undertake Work of Improvement Within the Central Zone of Santa Clara Valley Water District and Providing for Notice of Time and Place of Public Hearing Thereon

PASS AND ADOPTED by the Board of Directors of Santa Clara Valley Water District on JUL 11 1995 by the following vote:

AYES: Directors P.T. FERRARO R.W. GROSS J. JUDGE R.C. KAMEI J.J. LENIHAN S. SANCHEZ L. WILSON

NOES: Directors NONE

ABSENT: Directors NONE

SANTA CLARA VALLEY WATER DISTRICT

By: Rosemary C. Kamei
Chair/Board of Directors

ATTEST: SUSAN A. PINO

Susan A. Pino
Clerk/Board of Directors

CONFORMED COPY

R. Jalley

FC 1025 (01-13-92)

AGENDA MEMORANDUM

AGENDA DATE 7/25/95 ITEM NO. 4 DEPARTMENT Flood Control

ZONE C PROJECT NO. _____ NAME Guadalupe River—Southern Pacific Railroad to Highway 101

SUBJECT: Public Hearing on Engineer's Report for Proposed Flood Control Improvements on Guadalupe River From Southern Pacific Railroad to Highway 101
i) Resolution Approving Report of Engineer and Determining to Proceed With Work

RECOMMENDATION:

That the Board adopt the resolution.

RATIONALE:

On July 11, the Board set a public hearing on the report for July 25, 1995.

BACKGROUND:

Levees were constructed and the channel excavated on Guadalupe River between the Southern Pacific Railroad and Highway 101 in 1983. These flood protection levees were designed to contain the 1 percent flood event at 17,000 cubic feet per second. During the floods of January and March 1995, unexpectedly high flood stages were observed. An analysis determined that the flood events corresponded to a 15- and 25-year return period and that the creek had experienced a 40 percent loss of capacity due to sedimentation and vegetation. Staff was directed by the Board to prepare a plan for remedial action to restore the creek capacity. The Engineer's Report presents five options that were investigated as possible solutions. The recommended plan is a combination of continued maintenance program and levee construction. An environmental assessment of the project has been made and it has been determined to be categorically exempt from the California Environmental Quality Act. The estimated project cost is $1.6 million. A draft resolution has been prepared which approves the report and authorizes District staff to proceed with final design and construction. Work will begin immediately upon Board approval.

FINANCIAL IMPACT:

The estimated project cost is $1.63 million which will require a transfer from the reserves to a newly-created capital project. All work is proposed to be done by District forces utilizing the equipment rental contract.

AUTHORIZED

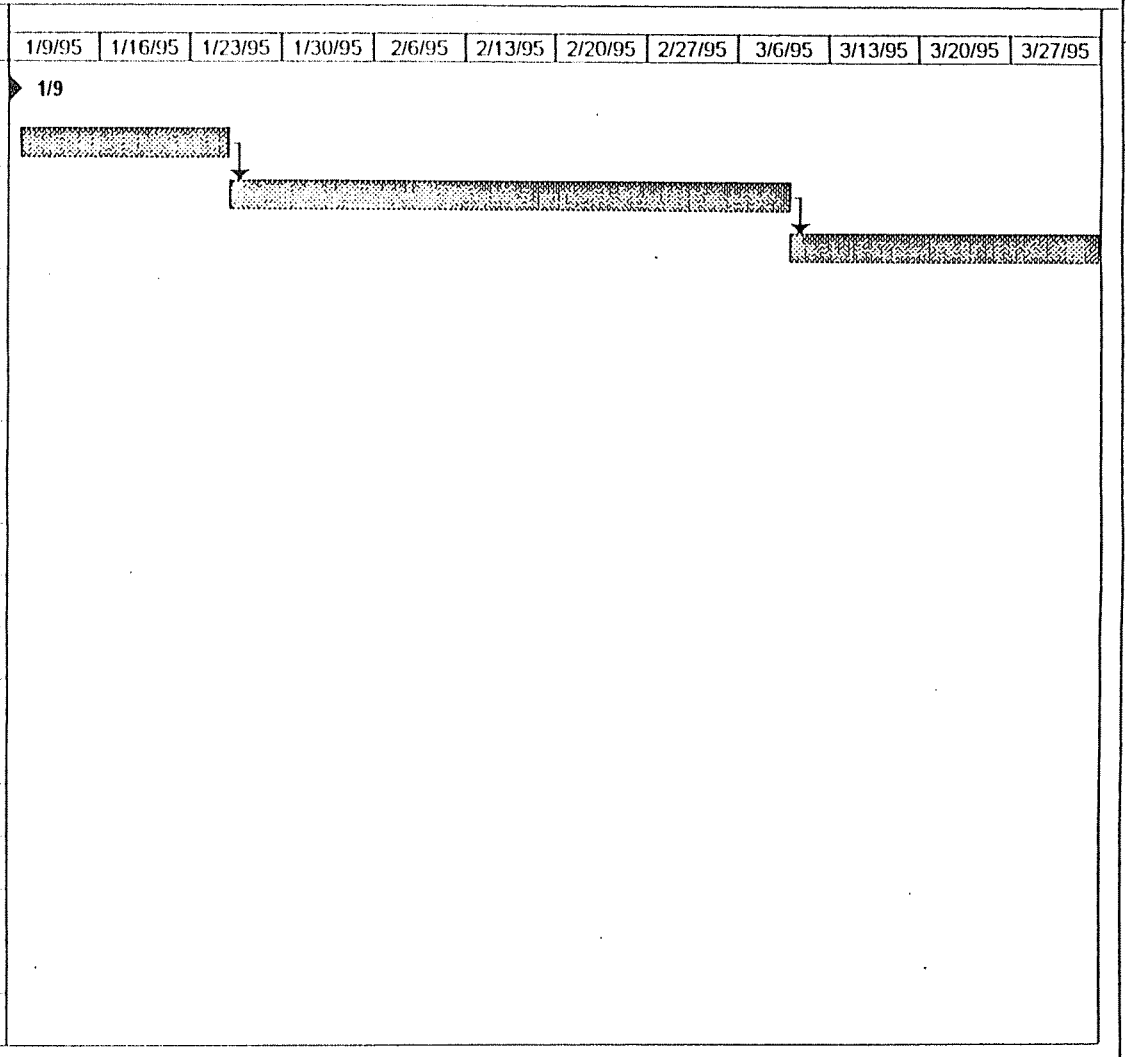
CT0630b

JUL 25

6/20 Action Plan to the Board

ACTION PLAN FOR GUADALUPE RIVER CAPACITY RESTORATION

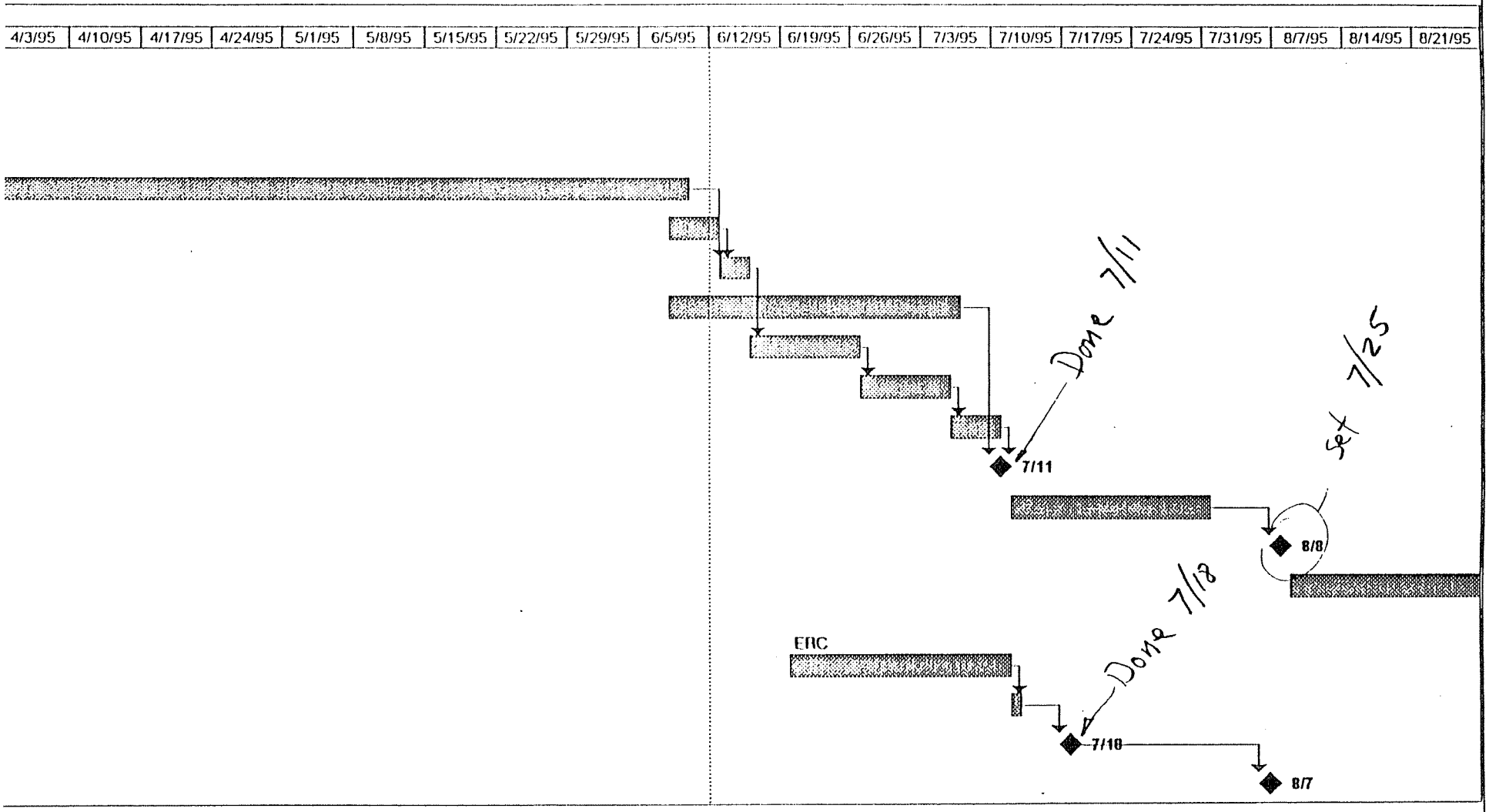
ID	Task Name	Duration	Start	Finish
1	Flood	0d	1/9/95	1/9/95
2	Surveys	12d	1/10/95	1/25/95
3	HW Analysis Memo	31d	1/26/95	3/9/95
4	Alternatives Investigation	66d	3/10/95	6/9/95
5	Complete Engineering Analysi	3d	6/8/95	6/12/95
6	Complete Alternative Cost Est	3d	6/13/95	6/15/95
7	Complete CEQA Document	21d	6/8/95	7/6/95
8	Write Engineers' Report	7d	6/16/95	6/26/95
9	Present Draft ER & Alt. to GM	7d	6/27/95	7/5/95
10	Select Plan	3d	7/6/95	7/10/95
11	Eng. Rept. to Board,Set Pub.	0d	7/11/95	7/11/95
12	Public Notice Period	14d	7/12/95	7/31/95
13	Public Hearing on ER	0d	8/8/95	8/8/95
14	Maint. Implements Plan by ER	42d	8/9/95	10/5/95
15	Study Long-term Solutions	365d	10/6/95	2/27/97
16	Agd. to Request Blds for ERC	16d	6/20/95	7/11/95
17	Bid Opening	1d	7/12/95	7/12/95
18	Board Approval	0d	7/18/95	7/18/95
19	Starting Date	0d	8/7/95	8/7/95



Project: GUADALUPE RIVER
Date: 6/12/95

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

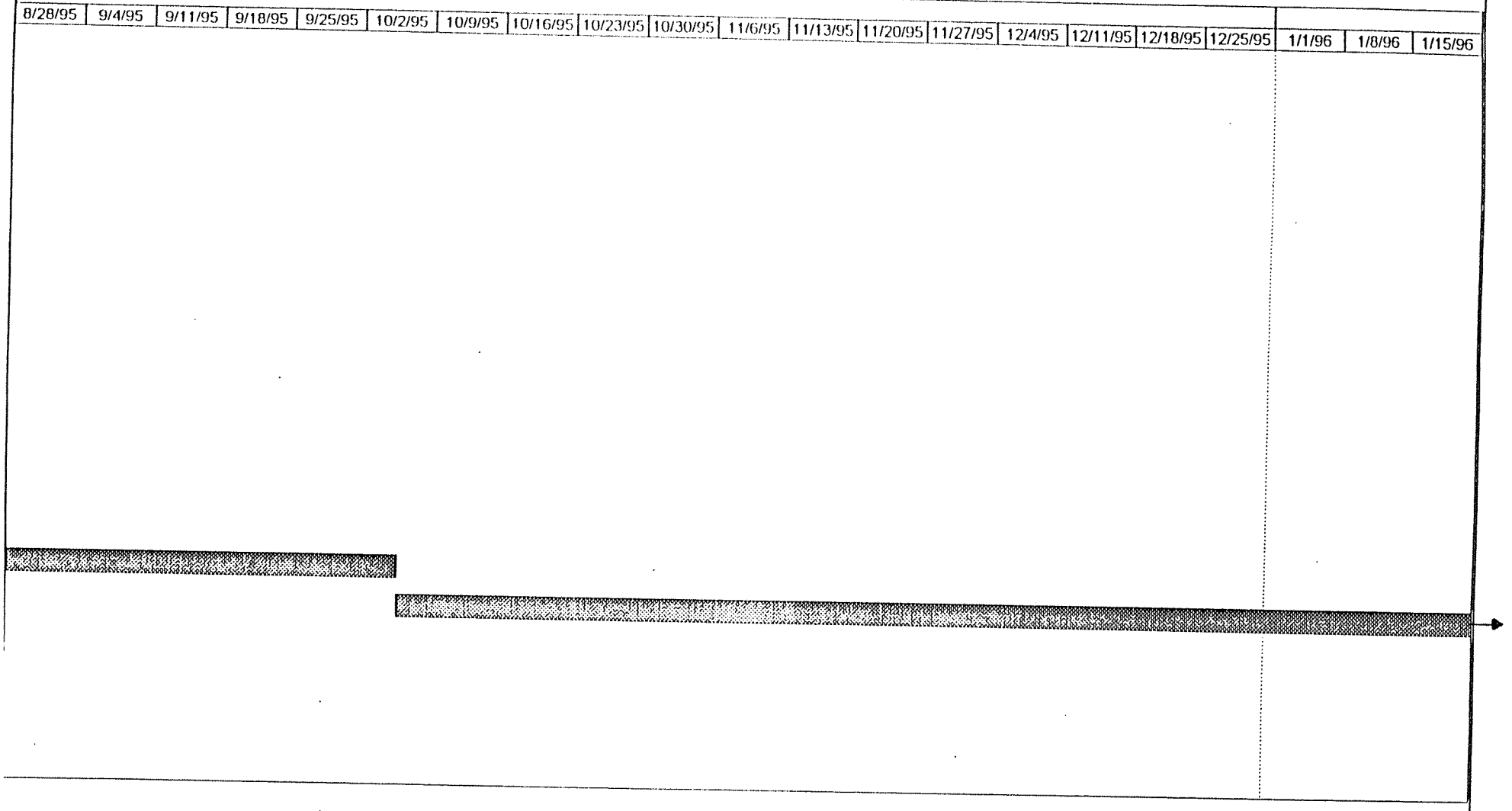
ACTION PLAN FOR GUADALUPE RIVER CAPACITY RESTORATION



Project: GUADALUPE RIVER
Date: 6/12/95

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

ACTION PLAN FOR GUADALUPE RIVER CAPACITY RESTORATION



Project: GUADALUPE RIVER
Date: 6/12/95

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

RESOLUTION NO. 95-57

APPROVING GENERAL CONSTRUCTION PLANS IN REPORT OF ENGINEER AND DETERMINING TO PROCEED WITH WORK OF PROVIDING FLOOD PROTECTION MEASURES ON GUADALUPE RIVER FROM SOUTHERN PACIFIC RAILROAD TO HIGHWAY 101

WHEREAS, the Central Zone of Santa Clara Valley Water District has been duly and regularly established and exists pursuant to the provisions of the Santa Clara Valley Water District Act; and

WHEREAS, on the 11th day of July 1995, the Report of the District Engineer was filed with this Board, which report consisting of maps and general construction plans for Guadalupe River from Southern Pacific Railroad to Highway 101 shows:

1. A general description of the proposed work of flood control protection measures ("project"), together with plans and profiles relating thereto;

2. A general description of and maps showing the location of the proposed project and the lands, rights of way, and easements required therefor; and

3. An estimate of the costs of the proposed project and means of financing these costs; and

WHEREAS, this Board of Directors did on the 11th day of July 1995 adopt its resolution declaring that the public interest and convenience require the construction of said project in accordance with said maps and general construction plans as contained in said report and specifying its intention to undertake construction of the same and setting a time and place for public hearing of said resolution, to wit, the 25th day of July 1995 at 9:10 a.m. in the Board Room of the Santa Clara Valley Water District, City of San Jose, California; and

WHEREAS, notice of the time and place of said public hearing was duly given and published pursuant to law; and

WHEREAS, on said 25th day of July 1995 at the time and place in said resolution and in said notice specified, a public hearing was duly held;

NOW, THEREFORE, be it resolved by the Board of Directors of Santa Clara Valley Water District as follows:

1. That all comments including all written and oral objections to the proposed project have been heard and considered;

2. That this Board hereby finds and determines that the requirements of the California Environmental Quality Act of 1970, as amended, and Guidelines for the implementation thereof have been met and complied with;

3. That this Board hereby approves said Engineer's Report including the general construction plans for Guadalupe River from Southern Pacific Railroad to Highway 101, Project No. 3015 in said Zone;

4. That this Board hereby determines that said project is for the benefit of a single zone of the District, to wit, Central Zone, further determines to proceed with the construction of said project in said Zone according to the said report and plans of the Engineer of this District and further determines that the cost thereof shall be borne by said Zone; and

5. That the District Engineer is directed to draw up precise plans and specifications for said project based upon the said report.

PASSED AND ADOPTED by the Board of Directors of the Santa Clara Valley Water District on the 25th day of July 1995 by the following vote:

AYES: Directors P.T. FERRARO R.W. GROSS J. JUDGE R.C. KAMEI J.J. LENIHAN S. SANCHEZ L. WILSON

NOES: Directors NONE

ABSENT: Directors NONE

SANTA CLARA VALLEY WATER DISTRICT

By: Rosemary C. Kamei
Chair/Board of Directors

ATTEST: SUSAN A. PINO

Clerk/Board of Directors

APPENDIX E

(ADDENDUM)

COMMENTS AND RESPONSES

LETTER OF COMMENT

September 14, 1995

Mr. Anson Moran
City and County of San Francisco
Public Utilities Commission General Manager
1155 Market Street, 4th Floor
San Francisco, CA. 94103

Dear Mr. Moran:

Subject: Guadalupe River Capacity Restoration from Southern Pacific Railroad to Highway 101
Project No. 6006-101

On behalf of the Santa Clara Valley Water District, I would like to thank you and your staff for your outstanding efforts in issuing a timely permit to perform the subject project. Your assurance to Kay for quick action on the permit certainly held true. This permit will help to ensure completion of the remedial flood protection work on Guadalupe River and protect our citizens if we have rainfalls similar to last winter.

I would like to give special commendation to Jonathon Chow and his staff who worked diligently to keep this permit on schedule and to keep my staff informed of the progress. We currently have another permit application for a similar project on San Tomas Creek in the review process. We are confident that this permit will also be issued in a timely manner, as this work needs to be completed prior to the rainy season to protect residents from major storm events.

We have discussed with your staff the possibility of developing a comprehensive permit with San Francisco Water Department for routine maintenance activities at all of our creeks. Both parties feel that this would be beneficial in terms of efficiency and maintaining a cooperative relationship. I hope that we can move forward with this concept and continue to expand the positive working relationship that we have developed.

Once again, thank you for your efforts and I look forward to seeing you in the near future.

Sincerely,

ORIGINAL SIGNED BY

Robert R. Smith
Assistant General Manager
Santa Clara Valley Water District

cc: Jonathon Chow
San Francisco Water Department
P.O. Box 730
Milbrae, CA 94030

S. Williams, K. Whitlock, R.R. Smith, R. Talley, M. Tucker, J. Ortiz, M. Stone, R. Bravo, K. Alameida

LETTER OF COMMENT

CITY OF SAN JOSÉ, CALIFORNIA

DESIGN & CONSTRUCTION DIVISION
801 NORTH FIRST STREET, RM. 300
SAN JOSE, CALIFORNIA 95110
TELEPHONE (408) 277-4638
FAX (408) 277-3668

DEPARTMENT OF PUBLIC WORKS
RALPH A. QUALLS, JR., DIRECTOR

SANTA CLARA
VALLEY WATER DISTRICT

95 JUL 27 P3:14

July 25, 1995

Randall R. Talley
Supervising Engineer
Flood Control Planning Division
Santa Clara Valley Water District
5750 Almaden Expressway,
San Jose, CA 95118

Dear Mr. Talley

SUBJECT: GUADALUPE RIVER PLANNING STUDY: SPRR IN ALVISO TO HWY 101, PROJECT 3015.

City of San Jose Department of Public Works storm drainage design staff has reviewed your agency's engineer's report for the subject project and haS the following comments:

* Option 5, raising the levees and continuing vegetation removal in accordance with current agreements does appear to be the most feasible way to address the situation in the near term.

* Planning studies for options 2, 3, and 4 must be continued and the options considered as possible long term strategies for managing the Guadalupe River.

* Future studies should indicate the relative importance of sedimentation control versus vegetation control.

If you have any questions or concerns, please call me at 277-4638. Thank you.

Sincerely,

Thomas S. Fletcher,
Manager, Storm Drainage
Design and Construction

TF/ssp
TF072595/STM/SSP

LETTER OF COMMENT

FOLLOWED BY RESPONSE

ORIGINAL FOR FILES

Natural Heritage Institute

114 SANSOME STREET, SUITE 1200
SAN FRANCISCO, CA 94104
(415) 288-0550
FAX (415) 288-0555

Non-Profit Law and Consulting in Conservation of Natural Resources and the Global Environment

Jerry A. Diamond
President

Via Mail

FAX TRANSMISSION

NATURAL HERITAGE INSTITUTE FAX #: (415) 288-0555

TO: P. Kay Whitlock

FROM: Richard Roos-Collins

RE: Project No. 3015 -- SCVWD's 7/25 Agenda

FAX NO: (408) 266-0271

DATE: July 24, 1995

NUMBER OF PAGES INCLUDING THIS COVER: 6

COMMENTS:

cc: Anthony Benetti

PLEASE DELIVER TO MS. WHITLOCK AND MR. BENETTI PRIOR TO 9 A.M. BOARD MEETING TUESDAY.

RECEIVED
JUL 25 1995



Natural Heritage Institute

114 SANSOME STREET, SUITE 1200
SAN FRANCISCO, CA 94104
TEL: (415) 288-0550/FAX: (415) 288-0555
e-mail: nhi@igc.apc.org

Non-Profit Law and Consulting in Conservation of Natural Resources and the Global Environment

John A. Thomas
President

July 24, 1995

BY TELEFAX AND FIRST-CLASS MAIL

P. Kay Whitlock
Flood Control Manager
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

Lieutenant Colonel Michael J. Walsh
U.S. Army Corps of Engineers
211 Main Street
San Francisco, CA 94105-1905

Re: Guadalupe River Planning Study (Project No. 3015)

Dear Ms. Whitlock and Lieutenant Colonel Walsh:

On behalf of Evergreen Resource Conservation District, we write regarding the Santa Clara Valley Water District's proposed work on the Guadalupe River between Highway 101 and Alviso to expand its current carrying capacity. We are concerned that the project, which includes significant removal of riparian vegetation, may have adverse impacts on the salmon fishery present in the Guadalupe and may not fully comply with applicable laws and regulatory requirements.

We have the following specific concerns about the Engineer's Report for SCVWD Project No. 3015.

Impacted Fishery

The Engineer's Report does not address the availability of spawning and holding habitat for chinook salmon in the area between Highway 101 and Alviso. We have not located any such discussion in the 1983 ER/EIR or the 1985 FEIS for the upstream flood control project. Even if it includes discussion we did not locate, the 1983 ER/EIR is twelve years out of date on this issue. Subsequent surveys by CDFG, SCVWD's consultants, and others have demonstrated that salmon use the project area to an extent which was not previously understood; a considerable number of salmon have been observed in the past month in Reach 3 between Trimble Road and Montague Expressway. We request that the project documentation be supplemented to analyze impacts on these

fish and their habitat, and to set forth proposed mitigation measures for any unavoidable impacts.

Vegetation Management

The District staff recommends a continuation of the existing program for vegetation maintenance. (Engineer's Report, p. 16). The Engineer's Report states that no new environmental documentation or permit would be necessary, since this program was fully described in the 1983 ER/EIR. (Engineer's Report, p. 7). This conclusion appears to conflict with statements elsewhere that reductions in the carrying capacity are a function of sediment deposit and vegetation growth which were not anticipated in 1983. (Engineer's Report, p. 1). We request that the District document that the precise management program proposed in this Engineer's Report, including the location, quantity, and timing of vegetation removal, was described in the 1983 ER/EIR and any applicable regulatory approval (including any permit, certification, or agreement).

We request that the District document that the vegetation mitigation required by the 1983 ER/EIR and any applicable regulatory approval has been fully implemented in the project area. We believe that Reach 3 -- between Trimble Road and Montague Expressway -- is a mitigation area where vegetation is to be maintained in perpetuity for fish and wildlife benefits. Accordingly, we do not understand how the District may undertake clearing there, unless the mitigation commitment is limited to one bank; and the clearing, to the other.

We have reason to believe that the January and March 1995 floods caused significant damage to riparian vegetation in Reach 3. If our understanding regarding the mitigation status of this reach is correct, we request that the District document the efforts which will be undertaken to remedy that damage.

The Engineer's Report concludes that the continued vegetation program would be consistent with the California Department of Fish and Game's (CDFG) "Memorandum of Understanding for Routine Maintenance Activities in Improved Channels" (1990). We request that the District document the basis for that conclusion.

The Engineer's Report states that CDFG must issue a letter of approval for continued clearing between Highway 101 and the Montague Expressway, and that a Section 1601 agreement would be necessary for new clearing proposed in the vicinity of crossings in Reaches 2 and 3. (Engineer's Report, p. 7). As a public

agency constituted under the Public Resources Code and charged with assisting in management of affected natural resources, Evergreen formally requests the opportunity to participate in the further consultations between the District and CDFG.

The Engineer's Report does not address the consistency of the continued management program with applicable water quality standards and certification requirements. We request that the District document such consistency.

Cumulative Impact of This and Upstream Flood Control Projects

We request that the District document the origin for the sediment whose deposit has reduced the carrying capacity of the Guadalupe below Highway 101. We have reason to believe that a significant portion of that deposit originated in the upstream flood control project, when the January and March 1995 floods damaged the Contract 1A mitigation site between Hedding Street and I-880. We request that the District address how erosion at the Contract 1A mitigation site or elsewhere in the upstream project has contributed to the downstream constriction.

In the environmental documents we have reviewed for the several flood control projects on the Guadalupe, we have not located any discussion of the possibility that a mitigation area upstream of I-880 would fail in such a way as to affect the carrying capacity of the channel downstream of Highway 101. We request that the District or U.S. Army Corps document that this cumulative impact -- which in fact occurred in the 1995 floods -- was adequately addressed in those environmental documents. If it was not, we request that the District or U.S. Army Corps analyze the impact prior to implementation of this project or further work on Contract 1, 2 or 3.

Finally, although this is not directly related to the District's action on Project 3015, we request that the District or the U.S. Army Corps identify the specific measures which will be undertaken to remedy the flood-related damage to the Contract 1A mitigation site.

Reservoir Operations

The Engineer's Report considers modification of the operations of upstream reservoirs to capture additional flood waters. (Engineer's Report, pp. 15-16). The report eliminates this option from consideration for this coming winter, due to the complexity and difficulty of the associated study. We note that,

in our comments on the District's related project for upstream spreader dams, we requested such a study regarding the integration of water supply and fishery needs. We now request that the District analyze alternative reservoir operations to best integrate those needs, flood control, and any other beneficial uses under the District's jurisdiction.

Appropriate Environmental Documentation

Finally, the Engineer's Report concludes that the recommended project would be categorically exempt from the California Environmental Quality Act (CEQA). That is so only if the specific activities and impacts have been fully analyzed in the 1983 ER/EIR; and only if material circumstances have not significantly changed. Evergreen's position regarding project exemption from CEQA and the National Environmental Policy Act depends on the District's responses to our informational requests above.

In conclusion, Evergreen supports the flood protection for the winter of 1995-6 as contemplated by this project. Our concerns go to the best means for providing that protection.

Please contact us if you have any questions about this letter.

Sincerely,

Richard Roos-Collins
NATURAL HERITAGE INSTITUTE

Attorney for
EVERGREEN RESOURCE CONSERVATION DISTRICT

P. Kay Whitlock
Lieutenant Colonel Michael J. Walsh
July 24, 1995
page 5

cc: Keith Anderson & Margaret Roper
California Department of Fish and Game

Edward C. Anton
California Water Resources Control Board

Nancy Bernardi
President, Evergreen Resource Conservation District

Dr. Stacy Li

Dante Maragni
National Marine Fisheries Service

Richard Whitsel
San Francisco Bay RWQCB

Michael Lopez
Santa Clara Cty. Dept. of Planning and Development

Maureen Driggs
Santa Clara Cty. Environmental Resources Agency

Anthony Bennetti, Esq.
General Counsel, SCVWD

State Lands Commission

Molly Martindale
U.S. Army Corps of Engineers

Mike Monroe
U.S. Environmental Protection Agency

Mike Aceituno
U.S. Fish and Wildlife Service

Santa Clara Valley Water District

5750 ALMADEN EXPRESSWAY
SAN JOSE, CA 95118-3686
TELEPHONE (408) 265-2600
FACSIMILE (408) 266-0271

AN AFFIRMATIVE ACTION EMPLOYER

September 21, 1995

Mr. Richard Roos-Collins
Natural Heritage Institute
114 Sansome Street Suite 1200
San Francisco, CA 94104

Dear Mr. Roos-Collins:

Subject: Guadalupe River Capacity Restoration From Southern Pacific Railroad to Highway 101—Project No. 6006-101

Thank you for your July 24, 1995, letter commenting on our emergency levee raising project for the Guadalupe River between Gold Street and Highway 101. You have raised several questions and I will respond in the same order.

IMPACTED FISHERIES

Fisheries resources were not addressed in the 1995 Engineer's Report because the majority of the work will be confined to the unvegetated top of the existing levees and will have no effect on fisheries habitat in the channel bottom. The vegetation clearing program will consist of removal of grass and brush on levee slopes (only the east levee slope between Montague Expressway and Trimble Road), mowing and clearing of the excavated overflow channel between Montague Expressway and Trimble Road, selective removal of trees near bridges, and clearing the excavated overflow channels between the Hetch Hetchy pipeline and Montague Expressway. Vegetation clearing in the channel will be limited. It is a continuation of our ongoing maintenance program and is not expected to create significant impacts to fisheries.

Grass and brush on the levee slopes do not provide or contribute to fisheries habitat in the channel. Likewise, the excavated overflow channel between Montague Expressway and Trimble Road does not provide fisheries habitat since it conveys high flows during storms but generally does not contain water at other times of the year. Vegetation and sediment were cleared from this area as recently as 1992. Fish migrating in the Guadalupe River would be attracted to the flows in the historic riparian low-flow channel on the west side of the river.

Removal of trees near bridges is limited to those trees which are obstructing flows within 100 feet of Montague Expressway and Trimble Road. A California Department of Fish and Game (CDFG) 1601 agreement has been obtained to prune and clear selective trees upstream of Montague Expressway. Work in this restricted area is not expected to have significant adverse affects on fisheries habitat nor block fisheries migration.

The two excavated overflow channels at the toe of the depressed maintenance roads between the Hetch Hetchy pipeline and Montague Expressway have been cleared of vegetation, alternating sides in alternate

years, at regular intervals. The continuation of this maintenance program will not create any significant adverse impacts to fisheries. No vegetation clearing occurs in a strip of vegetation approximately 50 to 150 feet in width between these two excavated channels. This area is adjacent to the historic low-flow channel and provides fisheries habitat.

VEGETATION MANAGEMENT

Enclosed is a copy of portions of the 1982 Engineer's Report and Focused Environmental Impact Report (EIR), describing the maintenance program and portions of the 1990 Memorandum of Understanding (MOU) between the Santa Clara Valley Water District (District) and the CDFG for Routine Maintenance Activities in Improved Channels as requested. Both the 1982 maintenance program and the 1990 MOU maintenance activities are summarized in the enclosed tables. In order to determine what activities could be implemented quickly in the summer of 1995 prior to the rainy season, we carefully evaluated which activities were consistent with the MOU and with the project and maintenance program reviewed under the California Environmental Quality Act (CEQA) in 1982. By comparing the enclosed tables with the project described in the 1995 Engineer's Report, it can be seen that the vegetation removal work is either consistent with the MOU and the 1982 Engineer's Report or, for a small area, a new CDFG 1601 agreement is required. These areas are quite limited as shown in Figure 4 of our current report. These activities do not require permitting from the U.S. Army Corps of Engineers (COE) either because they are outside of the COE's jurisdiction (top of levee) or they are types of activities which are not regulated (vegetation clearing with no dredging or filling in waters of the United States).

The reductions in the channel capacity in the tidal areas were not anticipated in 1983. Based on the historic survey data available at the time, the low-lying tidal areas in the 1983 project were judged to be a stable channel configuration. Photographs (current report) and survey data at the Gold Street sediment monitoring station (enclosed) clearly show, as we explained in our report, that the ". . . 1983 conditions no longer exist and sediment and denser vegetation are encroaching into the low-flow channel. The loss of the low-flow channel width and the change in vegetation species are the major causes of the decrease in channel capacity in this reach." This condition occurs from Gold Street to upstream Tasman Drive and is not being disturbed with the proposed work. In this area, vegetation control has only occurred along the levee and channel banks as permitted and the levees were raised as a fix to the reduction in channel capacity.

Upstream of the tidal areas, the District has been diligently following the maintenance program outlined in the 1982 Engineer's Report and the MOU. This was understood to be all that was necessary to ensure the capacity of the 1983 project. The high-flow events of 1995 have made it possible to calibrate and check the original design. We have found that the design and maintenance assumptions in 1983 were overly optimistic and the river channel and levees cannot carry the 1 percent design flow. This is why maintenance through this area needed to be continued, why a CDFG 1601 agreement was necessary for selective pruning and clearing of trees, and why the levees needed to be raised.

MITIGATION STATUS

The 1982 EIR and the 1982 Streambed Alteration Agreement from CDFG required as part of the mitigation the planting of 4 acres of riparian woodland. Approximately 4 acres of willow-cottonwood forest have been planted between Montague Expressway and Trimble Road on the westerly side of the excavated overflow channel adjacent to the historic riparian channel. This area is designated as a

mitigation area, not part of the excavated overflow channel, and will not be subject to any District vegetation control activities. This area will have increasingly greater wildlife benefits. The historic riparian channel serves as the main fish and wildlife corridor and will remain undisturbed.

The mitigation site did suffer some loss of willow and cottonwood cuttings from this year's storm events. Since the site extends nearly a mile in length, and has a wide range of soil and hydrological conditions, this variability is expected. When the site was planted in 1994, high mortality was anticipated and, therefore, the willow and cottonwood cuttings were planted in a very dense pattern. Prior to the floods, survival counts indicated about a 33 percent survival rate. We evaluated the site in May and will be reexamining it by mid-October. Depending on survival counts at that time, we may install additional cuttings in areas likely to have reasonable survival rates. It is not uncommon to need to replant in the early years of revegetation sites (during the plant establishment period) when the smaller plantings are more susceptible to damage. As we investigate a long-term flood control solution for the lower Guadalupe River, we will be evaluating the recovery of the existing mitigation site to determine if replanting is necessary.

STATUS OF CURRENT APPROVAL FROM CDFG

Prior to any approval or agreements, CDFG staff met with District personnel in the field on four occasions to discuss the vegetation control activities. As a result of these meetings, CDFG only gave permission to vegetation control work that will minimally impact the environment and that will be under their review.

Pursuant to the MOU, a letter of approval is required for removal of woody vegetation between Montague Expressway and Highway 101. The letter of approval was received on July 14, 1995. Approval was given for removing fallen trees and branches and associated debris in the channel to maintain channel design capacity. A copy of the letter of approval is enclosed.

The CDFG Streambed Alteration Agreement was received on August 11, 1995. The Agreement was for selective pruning and clearing of trees downstream of Montague Expressway. A copy of the agreement is enclosed.

WATER QUALITY STANDARDS

The District uses only herbicide types and application processes approved by the State and the U.S. Environmental Protection Agency and specifically only uses those herbicides approved for use in aquatic areas when spraying in the low-flow channel. The Regional Water Quality Control Board does not require specific permits for herbicide spraying.

CUMULATIVE IMPACT OF THIS AND UPSTREAM FLOOD CONTROL PROJECTS

The sediment which has reduced the capacity of the lower reaches of the Guadalupe River has come from tidal action. This phenomenon was described by R.B. Krone in a paper in 1972 and is clearly visible in the yearly cross sections taken at the District's Gold Street sediment monitoring station. The 1995 events actually scoured the low-flow channel slightly.

We have forwarded your letter to the COE in Sacramento because of your concern for the damage to the Contract 1A mitigation site. The Sacramento District still has an active contract for the installation and establishment of the mitigation site. The COE is responsible for restoring the site to its pre-flood condition and a 3-year establishment period. We are working with the COE to evaluate modifying the mitigation plan using biotechnical methods to minimize the chance of similar future flood damages. We anticipate that the site will be repaired before this winter.

RESERVOIR OPERATIONS

The District has begun studies of multipurpose operations for our reservoirs. The objective is to operate the District's reservoirs for the benefit of both flood control and water supply. This is done by generating rule curves that maximize the incidental initial storages for flood control without significant loss to water supply. We expect this study to take 1 to 2 years.

ENVIRONMENTAL DOCUMENTATION

Please refer to the enclosed environmental assessment for the 1995 Lower Guadalupe River Project which clarifies why different aspects of the project qualify for a categorical exemption. Note that some activities which were not evaluated in the 1982 EIR (adding height to the levee), qualify for a categorical exemption because they are a minor expansion of an existing facility which will not result in any significant environmental impacts, primarily because of the existing disturbed condition of the levee site.

It is true that current conditions at the Guadalupe River appear to be different than that evaluated in the 1982 EIR. There has been greater than expected levels of sedimentation and vegetative growth in the low-flow channel and salmon are now present. However, the current project does not propose any new work in the low-flow channel where the changed conditions occur. The new work has been specifically limited to a less sensitive area, the unvegetated top of the existing levees. A continuation of the existing maintenance program is the only work being implemented in the low-flow channel. The District will be evaluating the long-term consequences of sedimentation in the low-flow channel over the next few years, and if a new project or maintenance program is subsequently required in the channel, the impacts will be reviewed as required by CEQA.

Sincerely,

P. Kay Whitlock

P. Kay Whitlock
Assistant General Manager

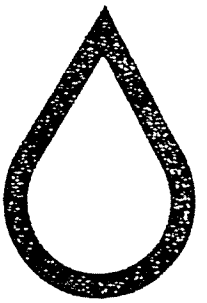
Enclosures

GUADALUPE RIVER
PLANNING STUDY

consisting of
the
ENGINEER'S REPORT
and
FOCUSED ENVIRONMENTAL
IMPACT REPORT

SEPTEMBER 1982

Santa Clara Valley Water District



Santa Clara Valley Water District

5750 ALMADEN EXPRESSWAY
SAN JOSE, CALIFORNIA 95118
TELEPHONE (408) 265-2600

October 7, 1982

Honorable Board of Directors
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Dear Board Members:

Transmitted herewith is the Final Engineer's Report and Final Focused Environmental Impact Report on proposed flood control measures for Guadalupe River from the Southern Pacific Railroad in Alviso to Highway 101, Project No. 3015. This document combines the Final Engineer's Report and Final Focused Environmental Impact Report for the proposed project. The study area is located within the Central Flood Control Zone, and also within the Cities of San Jose and Santa Clara.

The report contains a description of the flooding problem, discussions on the various alternatives to alleviate the problem and an evaluation of the economic and environmental impacts of the alternatives. The report also contains a recommended project and proposes measures to mitigate these environmental effects.

A public hearing on the draft version of this report was held on May 25, 1982 and June 8, 1982. A summary of the hearing, comments received during the public review period, and responses to the comments received are contained in an appendix to the report. The final report reflects changes made as a result of comments received.

The recommended project consists of raised levees, excavated channels and floodwalls. The estimated cost of the recommended project is $3,720,000 and can be financed from the District's share of the County's one percent property tax levy and benefit assessment revenue in the Central Zone.

Completion of this project will allow construction of the Corps of Engineers and/or District's future upstream project without the risk of causing additional flooding through this project reach.

I concur with the plan as proposed in this study and recommend a public hearing be held on the final report.

Sincerely yours,

John T. O'Halloran
General Manager

Enclosure

SANTA CLARA VALLEY WATER DISTRICT

PLANNING STUDY
CONSISTING OF THE ENGINEER'S REPORT AND
FOCUSED ENVIRONMENTAL IMPACT REPORT
FOR
GUADALUPE RIVER

Southern Pacific Railroad to Highway 101

Project Number 3015

Engineer's Report Prepared by Flood Control Unit Staff

Iwao Shintani — Project Engineer
David M. McNeely — Division Engineer, Design Division

Environmental Impact Report Prepared by

Dr. Bernard H. Goldner — Environmental Specialist

George Korbay
Flood Control Manager

John T. O'Halloran
General Manager

September 1982

DISTRICT BOARD OF DIRECTORS

Arthur T. Pfeiffer, Chairman	District 1	James J. Lenihan	District 5
Patrick T. Ferraro	District 2	Sio Sanchez, Vice Chairman	At Large
Robert W. Gross	District 3	Audrey H. Fisher	At Large
Maurice E. Dullea	District 4		

87 R1698 to

PROPOSED PROJECT

Proposed Project Description

The following proposal is one that we believe best balances the costs, hydraulic design factors, channel maintenance and environmental considerations:

SPRR to 1,500+ Feet Downstream of Hetch Hetchy

The proposal in this reach is to raise the existing levees up to seven feet - resulting in levee tops from three to twenty feet above adjacent ground. The new levees will have side slopes of two horizontal to one vertical (2:1) on both sides; the existing bank side slopes are at least 3:1. The top of levees in this reach will be 18 feet wide with wider areas at regular intervals to allow maintenance vehicles to turn around and to pass each other. Routine maintenance for this reach will be limited to the levee and channel banks with the existing channel bottom remaining undisturbed. Approximately 260,000 cubic yards of earth will be needed to construct the levees in this reach. The earth material will come from excavation of the banks upstream of this reach.

From Highway 237 to 1,500± feet downstream of Hetch Hetchy Pipeline, the proposed levees will be 0.5 foot to one foot higher than as proposed in the 1978 report. Included in the levee raising in this reach is the levee along the west side of the channel adjacent to Fairway Glen Golf Course that was not proposed to be raised in the 1978 report.

1,500+ Feet Downstream of Hetch Hetchy to Montague Expressway

In this reach in addition to the levee raising, an excavated channel is proposed with a depressed maintenance road along the inside of each bank. The levee in this reach will have 2:1 side slopes as proposed downstream but will be only 12 feet wide at the top. The depressed maintenance road will be cut into the existing levee at a minimum elevation of 8.0 feet above mean sea level and have a minimum width of 18 feet. The side slopes of the excavated channel below the maintenance road is proposed to be 3:1 or flatter. The maximum width of the excavated channel below the maintenance road will

be 35 feet. Routine maintenance activities for this reach will be provided for the levees, channel banks and the excavated channels. The remaining riparian area and existing low flow channel between the proposed excavated channel sections are to remain undisturbed and no provisions will be made for its maintenance on a routine basis. If the vegetation in this area becomes excessive, maintenance would be done only on a selective basis to remove obstructions. This remaining riparian area will vary from 100-150 feet wide for approximately 5,500 feet in the downstream portion of this reach and 50-100 feet wide for approximately 1,500 feet in the upstream portion of the reach. The channel bottom grade of the excavated channel on both banks will be set higher than the existing low flow channel and a low natural berm between the excavated channel and the existing channel is to remain in order to allow water to continue to flow in the existing low flow channel and provide water for the riparian habitat. Levee height in this reach will be 10 to 12 feet above adjacent existing ground, 0.5 to 7 feet above the existing levees and 0.2 to 2.5 feet higher than as proposed in the 1978 report. The amount of earth material needed for the levee raising in this reach is approximately 100,000 cubic yards and the amount of earth material above the maintenance road to be excavated for levee construction is approximately 60,000 cubic yards. The material to be excavated below the maintenance road is of questionable quality and will not be counted on to provide any suitable fill material in this reach.

In this reach, as in the downstream reach, the existing west bank levee adjacent to Fairway Glen Golf Course that was not proposed to be raised in the 1978 report will be raised 0.5 to 2.5 feet.

Also in this reach, in addition to the proposed levee raising, a two-foot high by 1,800-foot long floodwall is proposed on the westerly bank adjacent to lands owned by Kimball Small Properties. The floodwall is needed because the restricted right of way width does not allow enough room to raise the levee for one percent protection and provide a 12-foot wide levee top width. The possibility of acquiring additional right of

way adjacent to Kimball Small Properties will be pursued during the final design of the project.

In this reach, there are sites of archeological significance. Channel work in these areas has been designed to minimize the impact on the deposits by limiting excavation to areas that have been previously disturbed and by not excavating in areas that are determined to be undisturbed original ground. The archeological impacts of this project are discussed in the Environmental Impact Report.

In the 1978 report, strengthening of the structural supports for the Hetch Hetchy Pipeline was proposed. Since then, San Francisco Water Department has required that the pipeline be raised. The project to raise the pipeline will be a separate project (see Appendix F).

Montague Expressway to Trimble Road

The proposal in this reach is essentially the same as in the 1978 report. The principal construction item for this reach is the widening of the existing channel approximately 150 feet. This widening would consist of excavating along the east bank away from the existing significant riparian vegetation. The lower limit of excavation will be at an elevation slightly higher than the bottom elevation of the existing low flow channel. As provided downstream, a low natural berm between the main channel and the overflow channel will remain which will insure that low flows will continue to provide water to the existing habitat. Side slopes for the excavated section above the maintenance road will be 2:1 rather than 3:1 as proposed in the 1978 report and will remain 3:1 below the maintenance road. In addition to the excavation, a new levee will be constructed along the new east bank. This levee will have a top width of 12 feet and 2:1 side slopes. The top of levee elevation will be the same as in the 1978 report and will range in height from four to seven feet above adjacent ground. The maintenance access road will be at the toe of the proposed excavation along the east bank. The excavated material will be hauled downstream for levee construction as described previously.

Along the west bank of this reach, additional levee construction and channel excavation will not be required.

In addition to the major earthwork items, theory indicates that slope protection to prevent erosion will be necessary in selected areas. The channel slopes under the Montague Expressway Bridge and the channel slopes and bottom under the Trimble Road Bridge may need to be protected. In addition, slope protection may be necessary along the west bank for a distance of approximately 700 feet downstream of the Trimble Road Bridge. The cost of this slope protection is included in the estimated total construction cost; however, implementation of the work may be postponed until construction of upstream flood control works or more evidence of erosion.

Maintenance in this reach will be provided on a routine basis on the levees, channel banks and the excavated channel. The remaining riparian area and existing low flow channel will remain relatively undisturbed with selective removal of vegetation only if it becomes excessive.

Trimble Road to Highway 101 (Bayshore Freeway)

The proposal for this reach is for levee raising only. The proposed levees will be on top of the existing levees and will be approximately five to seven feet above adjacent ground and will be 0 to 3.5 feet above the existing levee. Due to the restricted right of way width in this reach, the levees will have 2:1 side slopes and will be 12 feet wide at the top for most of the reach. Where the right of way will allow, a wider levee top will be provided for turnaround areas. Routine maintenance for this reach will be provided for the levees and channel banks. The channel bottom will remain relatively undisturbed with selective removal of vegetation if it becomes excessive.

The quantity of earth material needed to build the levees is approximately 15,000 cubic yards and will be provided from the downstream excavation areas.

AUG 1 4 1990

SANTA CLARA VALLEY WATER DISTRICT
AND
CALIFORNIA DEPARTMENT OF FISH AND GAME
MEMORANDUM OF UNDERSTANDING
ROUTINE MAINTENANCE ACTIVITIES IN IMPROVED CHANNELS

This Memorandum of Understanding by and between the California Department of Fish and Game, hereinafter called the "Department", and Santa Clara Valley Water District, hereinafter called the "Water District", is for the purpose of delineating and defining routine maintenance activities in improved channels that shall not require further Notice and Agreement in compliance with the Fish and Game Code.

WHEREAS, the Department is required to propose modifications to construction activity pursuant to Fish and Game Code Section 1601 to the Water District, and Section 1601 provides for agreement with the Department on routine maintenance of drainage and flood control facilities; and

WHEREAS, the Department has a duty to conserve fish and wildlife resources of this State; and

WHEREAS, it is essential that the Water District perform routine maintenance activities to maintain District facilities to ensure that the facilities continue to provide the design level of flood protection to which the facilities were constructed, to protect the public's investment, to prevent loss of life and property, and to comply with local ordinances and regulations, federal flood insurance regulations, and other federally mandated programs; and

WHEREAS, it is mutually beneficial to delineate and define routine maintenance, and to establish procedures to expedite maintenance activities, and to provide for the protection of fish and wildlife habitat during such maintenance activities;

WHEREAS, nothing in this agreement shall constitute a waiver of any future or current Department claims to the use and maintenance of natural conditions under the public trust doctrine;

THEREFORE, the Department and the Water District do agree as follows:

I. DEFINITIONS

An improved channel is defined as a waterway in which significant man-made alteration has occurred to improve the passage of flood flows, including straightening and containing within constructed banks and concrete-lined, riprapped, or earth trapezoid channels with engineered banks. The waterways listed in Appendix A attached hereto are the exclusive list of improved channels as defined in this Agreement.

Routine maintenance is defined as those periodically scheduled and implemented activities necessary to maintain the structural and functional integrity of the improved channel.

Channel banks, channel bottoms, and low flow channels are defined by reference to typical cross sections of flood control channels as shown in Diagram 1 attached hereto.

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II. CHANNEL MAINTENANCE

The activities identified below for improved channels listed in Appendices A and B, shall constitute routine maintenance activities by definition and shall not require further notice to, and Agreement with, the Department.

The selection and application of herbicides will conform to all applicable State and Federal E.P.A. regulations.

A. Control of weeds and grasses on maintenance roads, on the areas between top of banks and adjacent property and on floodplains or overflow channels to comply with local fire regulations by mowing, discing, hand labor or herbicide application.

B. Control of weeds, grasses, and emergent aquatic vegetation on channel bottoms and banks, and on floodplains or overflow channels to maintain channel design capacity by mowing, hand labor or herbicide application.

C. Control of weeds and grasses on maintenance roads to provide a safe travelway to conduct facility inspection and maintenance activities by mowing, discing, hand labor or herbicide application.

D. Control of weeds and grasses on levees to conduct facility inspection by mowing, hand labor or herbicide application.

E. Control of weeds and grasses in revegetated mitigation areas and landscaped areas to allow plant establishment by mowing, discing, hand labor or herbicide application.

F. Removal of vegetation, silt and debris, and other obstructions to flow in the immediate vicinity (not-to-exceed 100 feet) of the following structures (1) streamflow measuring stations; (2) box culverts and bridges; (3) storm drain outfall structures; and, (4) drop structures (energy dissipaters) to maintain the structures' design functions. Surface flowing water, if any, will be diverted from work area when using equipment in the channel.

G. Removal of woody and herbaceous vegetation with hand labor and tools on channel bottoms and channel banks to maintain channel design capacity. Channels that are to be cleared in strips in alternating years to retain habitat for wildlife, as illustrated in Diagram 2, are indicated in Appendix A under applicable M.O.U. item "GS".

H. Removal of trees or branches that are in imminent danger of falling, fallen trees, and associated debris to maintain the channel design capacity .

J. Removal of accumulated sediment, debris, rubbish, and other obstructions from channels with concrete bottoms to maintain channel design capacity.

K. Removal of accumulated sediment, debris, rubbish and other obstructions in channels with unlined channel bottoms to maintain channel design capacity. Channels that are to be cleared in strips in alternating years to retain habitat for wildlife, as illustrated in Diagram 2, are indicated in Appendix A under applicable M.O.U. item "KS".

L. Removal of accumulated sediment, debris, rubbish and other obstructions in channels with unlined channel bottoms to maintain low flow channel design capacity or when necessary, to provide fish passage or habitat identified in District environmental documents.

M. Removal of accumulated sediment, debris, rubbish, and other obstructions from sediment basins to maintain design functions as identified in Appendix B.

N. Repair of failed sections of rock, gabion, concrete-lined or sacked concrete riprap bank protection to maintain bank stabilization measures previously installed for public health safety and benefit. Surface flowing water, if any, will be diverted from work area when using equipment in the channel.

III. TIME AND MANNER OF WORK

Maintenance work shall be performed at a time and in a manner which shall meet the District's obligations to public health and safety while recognizing the need to minimize adverse impacts to fish and wildlife resources and their habitat. Periods of concern to the Department are March through June for nesting birds, and October through March for anadromous fish.

IV. REPORTING REQUIREMENTS

The Water District shall provide written notification to the Lieutenant Warden for Santa Clara County of the monthly schedule for that work tentatively proposed.

The Water District shall provide to the Regional Manager, Region 3, of the Department, written notification of maintenance projects completed within the preceding quarter (quarterly reports). A maintenance project is defined as an improved channel wherein one or more of the maintenance activities identified in this Memorandum of Understanding have been performed during any given reporting period. Due dates for submitting quarterly reports shall be as follows:

May 15 for first quarter projects	(January through March)
August 15 for second quarter projects	(April through June)
November 15 for third quarter projects	(July through September)
February 15 for fourth quarter projects	(October through December)

A fee payable to the Department shall accompany each quarterly report. The fee amount shall be in accordance with the current fee schedule, as published by the Department for work performed under an MOU, based on the number of maintenance projects completed within a calendar year.

V. AMENDMENT AND TERMINATION

This Memorandum of Understanding may be amended at any time upon written agreement of the parties. Pursuant to Section 1601, agreement of the Department was obtained by the Water District for the improved channels listed in Appendix A. If the Water District gives notice to and obtains the agreement of the Department to construct additional improved channels, in compliance with Section 1601, any such additional improved channels will be added to Appendix A by written amendment of this Agreement, and all provisions of this Agreement shall apply.

This Memorandum of Understanding may be terminated by either party at any time but no such termination shall become effective until 30 days after the party not indicating the termination has been duly notified in writing. Upon termination, the activities of the parties shall be governed by the provisions of Section 1601 of the California Fish and Game Code.

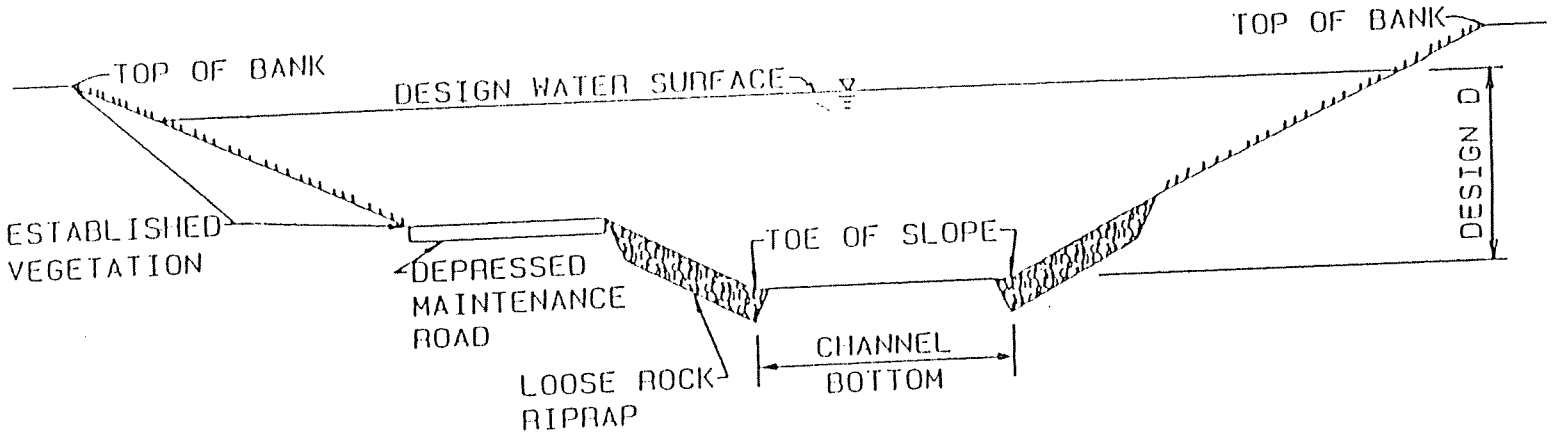
Brian Hunter
Regional Manager
Department of Fish and Game

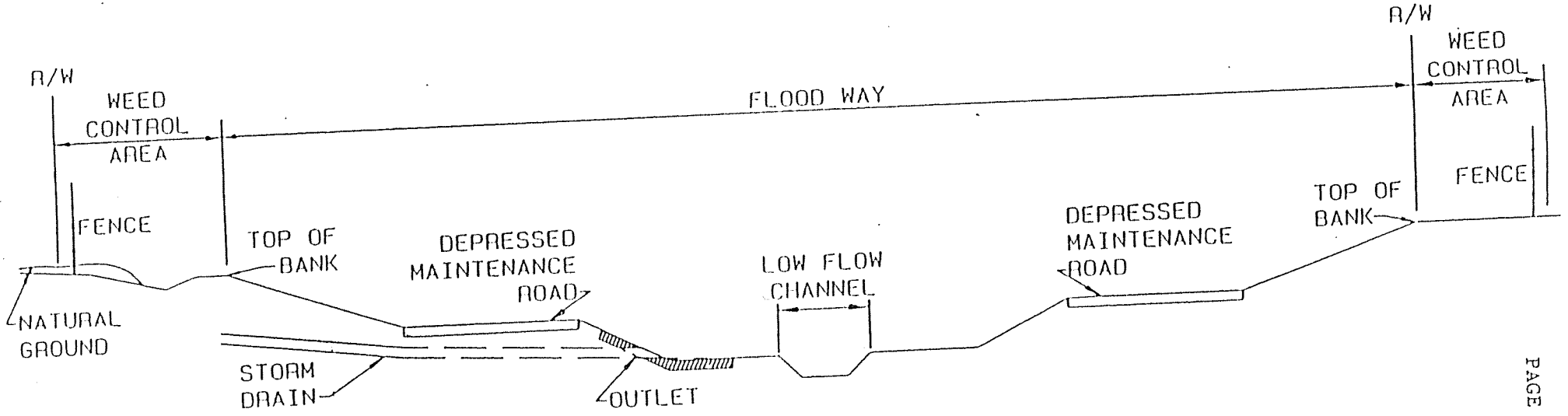
August 13, 1990
Date

Santa Clara Valley Water District
Maintenance Manager

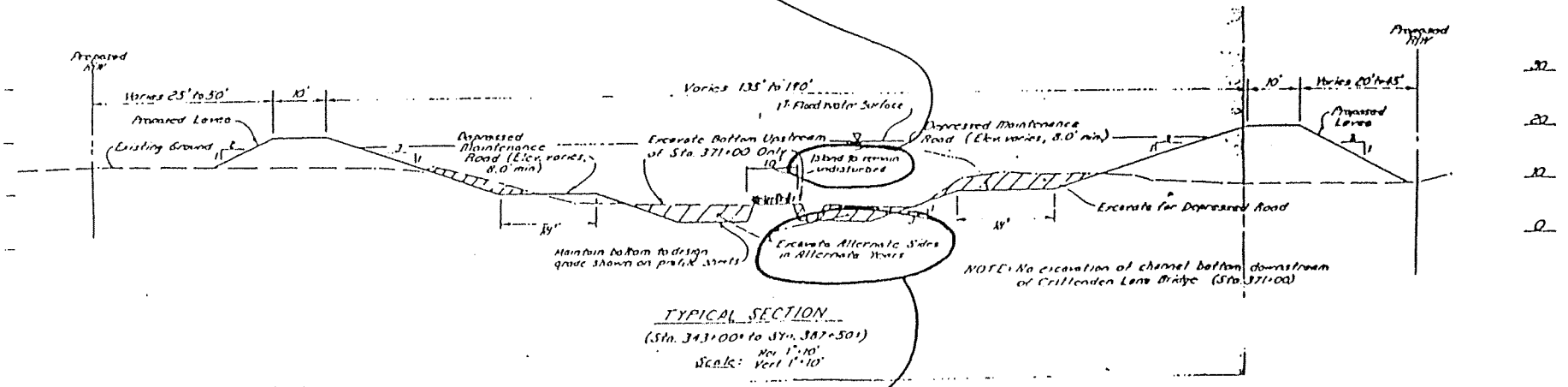
July 16, 1990
Date

Attachments


TOP OF BANK
TOP OF BANK
DESIGN WATER SURFACE
DESIGN D
ESTABLISHED VEGETATION
DEPRESSED MAINTENANCE ROAD
TOE OF SLOPE
CHANNEL BOTTOM
LOOSE ROCK RIPRAP


R/W
WEED CONTROL AREA
FLOOD WAY
R/W
WEED CONTROL AREA
FENCE
FENCE
TOP OF BANK
DEPRESSED MAINTENANCE ROAD
LOW FLOW CHANNEL
DEPRESSED MAINTENANCE ROAD
TOP OF BANK
NATURAL GROUND
STORM DRAIN
OUTLET

ISLAND TO REMAIN
UNDISTURBED



TYPICAL SECTION
(Sta. 343+00 to Sta. 387+50)
Hor. 1"=10'
Scale: Vert 1"=10'

EXCAVATE ALTERNATE SIDES
IN ALTERNATE YEARS

DIAGRAM NO. 2

Creek Name - Project No.		Beg. Sta. End. Sta.	D/S Limits U/S Limits	Reach Length (ft.)	Channel Type and Related Information	Applicable M.O.U. Items
Golf Creek	3013	91+00 118+00	U/S Gillis Drive D/S Hillcrest Drive	2,700	Pipe	H, J
Golf Creek	3013	118+00 120+00	D/S Hillcrest Drive Limit of Jurisdiction	200	Excavated Earth w/Sacked Channel Slope Protection	A, B, C, H, K, N
Greystone Creek	3014	0+00 35+53	Confluence w/Alamitos Creek D/S Trinidad Drive	3,553	Excavated Earth, w/Concrete Sections	A, B, C, D, F, G, H, K, L, N
Greystone Creek	3014	35+53 50+00	U/S Trinidad Drive Melba Court	1,447	Concrete Lined	A, C, F, H, J, N
Greystone Creek	3014	50+00 70+00	Melba Court Hampton	2,000	Excavated Earth w/Rock Slope & Invert Protection	A, B, C, E, F, G, H, K, L, N
Guadalupe River	3015	230+00 387+50	Transition to Alviso Slough D/S Montague	15,750	Excavated Earth w/ Engineered Earth Levees	A, B, C, D, F, G, H, Ks, L, N
Guadalupe River	3015	387+50 390+00	D/S Montague U/S Montague	250	Excavated Earth w/Sacked Concrete Slope Protection	A, B, C, D, F, G, H, K, L, N
Guadalupe River	3015	390+00 449+60	U/S Montague D/S Trimble	5,960	Excavated Earth w/Engineered Earth Levees	A, B, C, D, F, G*, H*, K*, L*, N

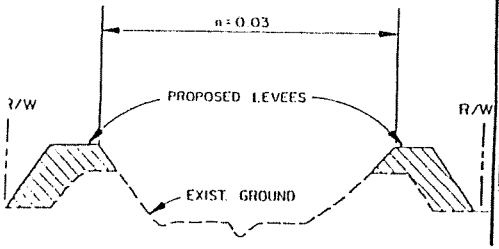
*Letter of Approval From District Fishery Biologist is Required.

Creek Name - Project No.		Beg. Sta. End. Sta.	D/S Limits U/S Limits	Reach Length (ft.)	Channel Type and Related Information	Applicable M.O.U. Items
Guadalupe River	3015	449+60 477+00	D/S Trimble D/S Highway 101	2,740	Excavated Earth w/Engineered Earth Levees	A, B, C, D, F, G*, H*, K,*, L*, N
Guadalupe River	3015	477+00 515+00	D/S Highway 101 D/S Airport Parkway	3,800	Excavated Earth w/Engineered Earth Levees	A, B, C, D, F, G*, H*, K*, L*, N
Guadalupe River	3015	515+00 580+00	D/S Airport Parkway D/S Highway 880	6,500	Excavated Earth w/Engineered Earth Levees	A, B, C, D, F, G*, H*, K*, L*, N
Guadalupe River	3015	857+00 885+00	Canoas Creek Confluence Blue Jay Drive	2,800	Excavated Earth w/Gabion Slope Protection	A, B, C, D, E, F, G*, H*, K*, L, N
Guadalupe River	3015	885+00 1016+00	Blue Jay Drive Blossom Hill Road	13,100	Excavated Earth w/Concrete Sections	A, B, C, D, E, F, G, H, J, K, N
Guadalupe River	3015	1016+00 1044+00	Blossom Hill Road Alamitos Creek Confluence	2,800	Excavated Earth w/Gabion Slope Protection	A, B, C, D, E, F, G, H, K, L, N
Guadalupe Creek	3026	1048+00 1162+50	D/S Almaden Expressway U/S Camden Avenue	11,450	Excavated Earth (Modified Floodplain)	A, B, C, F, G, H, K, L
Lone Hill Creek	3019	0+00 21+00	Ross Creek Confluence D/S Los Gatos/Almaden Road	2,100	Concrete Lined	A, C, F, H, J, N

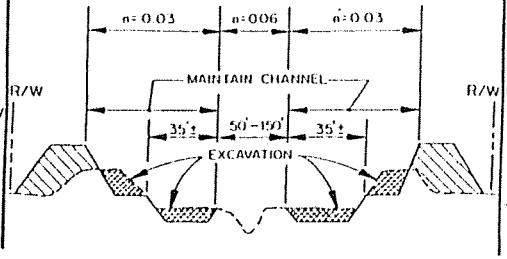
*Letter of Approval From District Fishery Biologist is Required.

GUADALUPE R CAPACITY STUDY

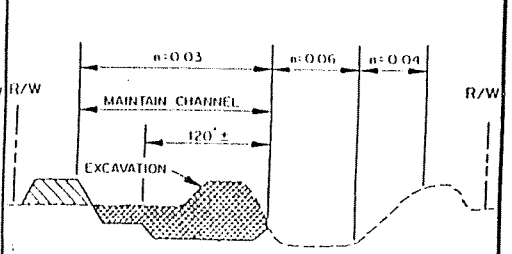
S.P.R.R. TO 1500 FT. DOWNSTREAM OF HETCH-HETCHY PIPELINE



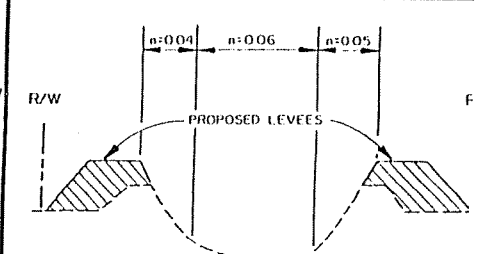
1500 FT. DOWNSTREAM OF HETCH-HETCHY PIPELINE TO MONTAGUE EXPRESSWAY



MONTAGUE EXPRESSWAY TO TRIMBLE ROAD



TRIMBLE ROAD TO HIGHWAY 101 (BAYSHORE FWY.)

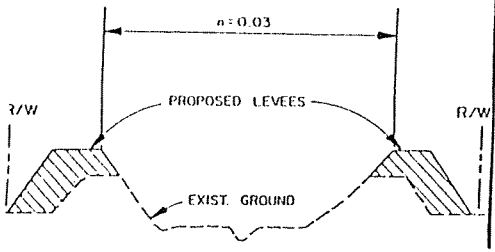


MAINTENANCE ACTIVITIES SPECIFIED IN 1982 ENGINEER'S REPORT AND EIR:

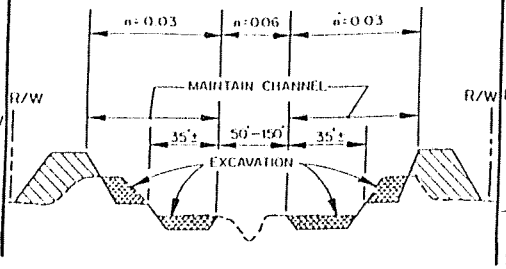
Routine maintenance on levees and channel banks. Existing channel bottom to remain undisturbed.	Routine maintenance on levees, channel banks and excavated channels. Selective removal of vegetation to remove obstacles in 100 to 150-foot width riparian area at 5,500-foot d/s portion and 50 to 100-foot width riparian area at 1,500-foot u/s portion. Retention of low berm between overflow channel and main channel to water existing riparian habitat.	Routine maintenance on levees, channel banks and excavated channel. Selective removal of vegetation in remaining riparian area and existing low flow channel. Retention of low berm between overflow channel and main channel.	Routine maintenance on levees and channel banks. Selective removal of veg in channel bottom.

GUADALUPE R CAPACITY STUDY

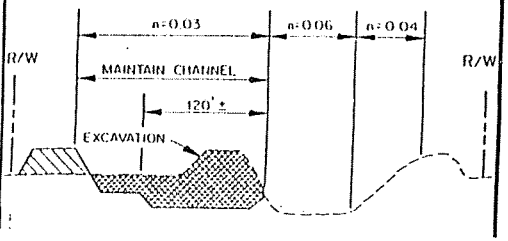
S.P.R.R. TO 1500 FT. DOWNSTREAM OF HETCH-HETCHY PIPELINE



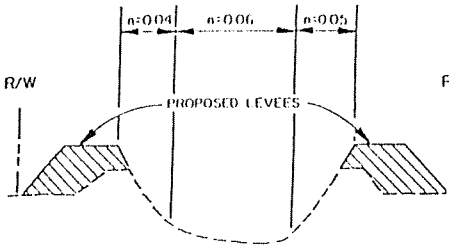
1500 FT. DOWNSTREAM OF HETCH-HETCHY PIPELINE TO MONTAGUE EXPRESSWAY



MONTAGUE EXPRESSWAY TO TRIMBLE ROAD

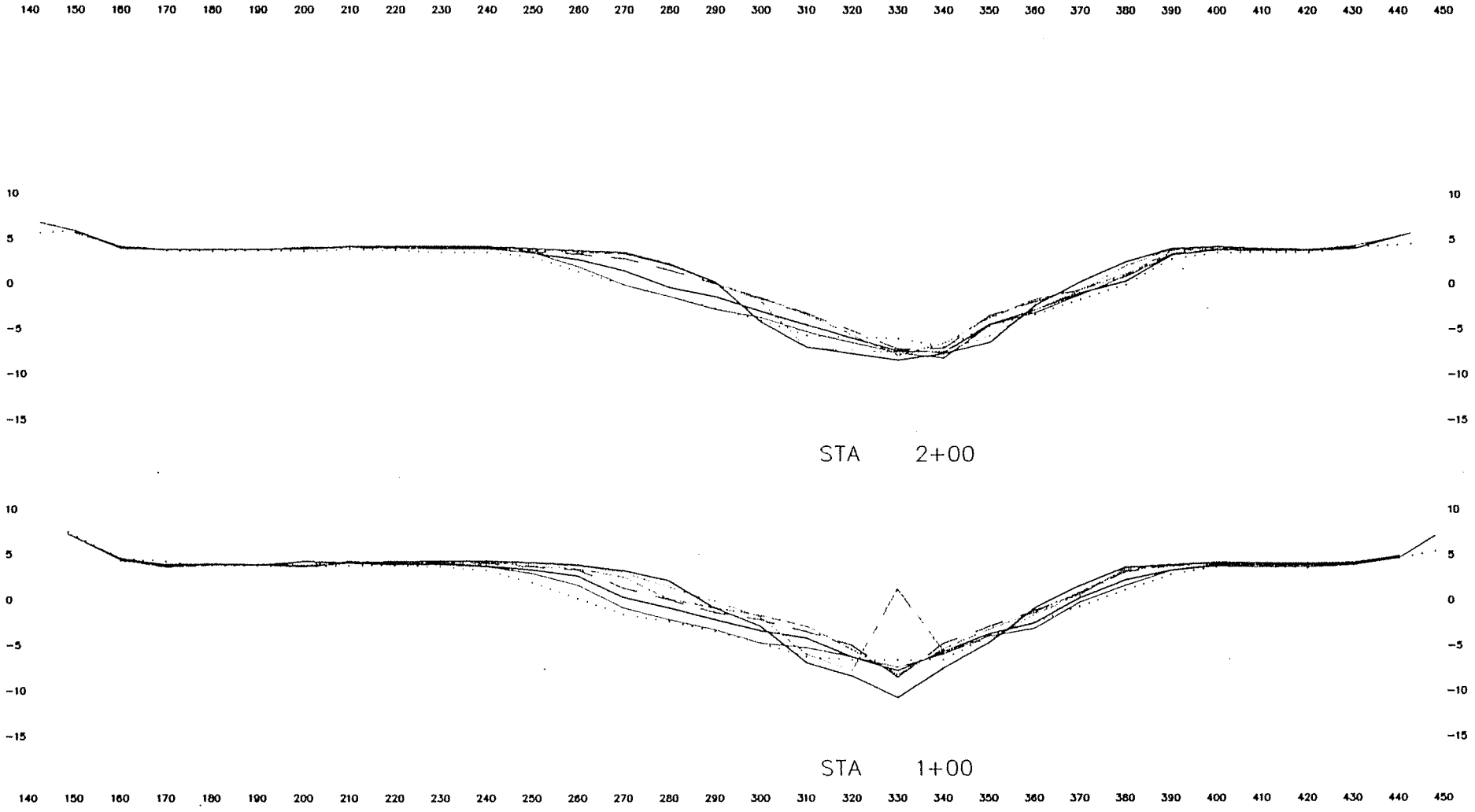


TRIMBLE ROAD TO HIGHWAY 101 (BAYSHORE FWY.)



MAINTENANCE ACTIVITIES UNDER CDFG MOU (7/90)

Alviso Sl to Montague (A,B,C,D,F,G,H,Ks,L,N)	Montague to Highway 101 (A,B,C,D,F,G*,H*,K*,L*,N)
Vegetation Removal Mowing, hand labor or herbicide spray of weeds, grasses and aquatic veg on channel bottom, overflow channel, floodplain and bank to maintain design capacity (B). Removal of woody and herbaceous veg with hand labor and tools on channel bottom and bank to maintain design capacity (G). [=no herbicide or heavy equipment to remove trees?] Removal of trees or branches that are in imminent danger of falling, fallen trees and assoc. debris to maintain channel design capacity (H). See also F below.	**Vegetation Removal** Same as for d/s section except letter of approval from District Fishery Biologist is required for: Removal of woody and herbaceous veg with hand labor and tools on channel bottom and bank to maintain design capacity (G). Removal of trees or branches that are in imminent danger of falling, fallen trees and assoc. debris to maintain channel design capacity (H).
Silt Removal Removal of veg, silt, debris and other obstructions w/i 100 feet of bridges, box culverts, and outfalls to maintain structure's design functions (F). Removal of accumulated sediment, debris, rubbish and o/ obstructions in channels in alternating years to maintain design capacity (K), except @ Montague Expressway (from 387+50 d/s to 390+00 u/s), it does not need to occur in alternating years. Removal of accumulated sediment, debris, rubbish and o/ obstructions in channels to maintain low flow channel capacity or fish passage or habitat as identified in District environmental documents (L).	**Silt Removal** Same as for d/s section except letter of approval from District Fishery Biologist is required for: Removal of accumulated sediment, debris, rubbish and o/ obstructions in channels years to maintain design capacity (K). Sediment removal is not required in alternating years. Removal of accumulated sediment, debris, rubbish and o/ obstructions in channels to maintain low flow channel capacity or fish passage or habitat as identified in District environmental documents (L).
Erosion control Repair of failed rock, gabion, concrete-line or sacked concrete riprap bank protection to maintain bank stabilization measures previously installed (H).	**Erosion control** Same as for d/s section.



1. Sta. 100 represents the easterly side of bridge.
2. Sta. 200 represents the westerly side of bridge.

1987
1988
1989
1991
1992
1993
1995

NOT TO SCALE
6-6-95

GUADALUPE RIVER
SEDIMENTATION STUDY
GOLD STREET BRIDGE

Categorical Exemption

Santa Clara Valley Water District

MEMORANDUM

FC 14A (06-28-93)

TO: Randy Talley

FROM: Cindy Roessler

SUBJECT: Guadalupe River Capacity Restoration, Environmental Review

DATE: July 5, 1995

SUMMARY

The Guadalupe River Capacity Restoration project will restore the 1 percent flow capacity (17,000 cubic feet per second) for the Guadalupe River by raising levees and removing vegetation in selected locations between the Southern Pacific Railroad (SPRR) crossing in Alviso and Highway 101. Implementation of this work will begin in the summer of 1995 to provide protection prior to the start of winter rains. The vegetation removal activities could continue for 2 to 4 years until a more permanent solution is designed and implemented. The activities proposed under the Guadalupe River Capacity Restoration study are either consistent with the 1982 Environmental Impact Report (EIR) or are minor activities with no potential for environmental effect and, therefore, are exempt from additional review or are categorically exempt under the California Environmental Quality Act (CEQA). Subsequent long-term solutions will be reviewed in the future under CEQA, as necessary.

The different activities proposed under the Guadalupe River Capacity Restoration project are described below with an evaluation of their status under CEQA.

Restore levee heights to the "as-built" condition. A flood control project was designed and an EIR prepared under CEQA in 1982 for the Guadalupe River between the SPRR crossing and Highway 101[1]. The project was constructed in 1985 and consisted primarily of raising or relocating existing levees, constructing an excavated channel, and widening portions of the channel. As a result of settling, the existing levees are no longer the same height as originally built. The current project proposes placement of up to 4 feet of earthen material on the top of the settled levees to restore them to their original height.

Since the site has been previously disturbed by construction activities and the work area is very limited, there is no potential for significant environmental impacts. All work will be confined to the top and upper slope of the existing levees. The flat top of the levee is used as a maintenance road and is either bare or sparsely vegetated with annual grasses and weedy forbs, and thus does not provide any valuable wildlife habitat. This activity will not result in the filling of wetlands and will not remove any mature trees. The site does not contain any hazardous materials nor do the existing levees contain any cultural resources. The project is designed as an engineered facility and will not introduce any new geological hazards. Standard techniques will be used to protect water quality during construction such as excluding equipment from sensitive areas and stabilizing bare slopes to prevent erosion.

Land uses adjacent to the levees are primarily industrial with some residential areas occurring near Montague Expressway and upstream of Gold Street. These land uses are generally screened from the levees by fences; therefore, restoration of the levees to their former height will not result in any new visual or aesthetic impacts. Construction noise and traffic will be temporary and minimal due to the setback of adjacent land uses.

---

[1]Santa Clara Valley Water District, September 1982, Planning Study, Consisting of the Engineer's Report and Focused Environmental Impact Report for Guadalupe River, Southern Pacific Railroad to Highway 101.

Because there is no potential for significant environmental impacts, restoring the levees to the "as-built" conditions qualifies for a Class 1 categorical exemption under CEQA as a repair of an existing facility involving negligible or no expansion of use beyond that previously existing.

Add Height to levees above the "as-built" condition. Up to approximately 2.5 feet of earthen material would be added to the top of the levees between SPRR and Trimble Road above the as-built conditions. To provide adequate access for maintenance vehicles, Geoweb, hilfiker wire, or similar soil reinforcement structures will be used to maintain a minimum levee top width of 12 feet without changing the base width or widening the inside slopes (see attached figure). The increase in levee height would be up to 2.7 feet from SPRR to 1,500 feet downstream of the Hetch Hetchy pipeline (Reach 1), from 1.2 to 2.7 feet from 1,500 feet downstream of Hetch Hetchy pipeline to Montague Expressway (Reach 2), and from 0.4 to 1.9 feet from Montague Expressway to Trimble Road (Reach 3).

All work will be confined to the top of the existing levees. This work will be conducted at the same time and in a similar manner as that described above for the "as-built" heights. As described above, the existing conditions provide negligible vegetation and wildlife habitat, and there is no potential for adverse impacts associated with cultural resources, hazardous materials, geologic hazards, water quality, noise, and traffic. Since adjacent land uses are set back or screened from the levees by fences, raising the levee height no more than 2.5 feet will not result in any significant visual or aesthetic impacts.

Adding height to the levees as proposed will not result in any significant environmental impacts. This activity qualifies as a Class 1 categorical exemption under CEQA as a minor alteration of an existing facility involving negligible expansion of use beyond that previously existing. Although the levees will be raised above their existing height, this will not expand the design capacity of the flood control facility. Rather, levee raising has been proposed as a short-term measure to restore the design capacity which has been reduced over the past 10 years by sedimentation and growth of vegetation in the channel.

Levee raising as proposed does not have the potential for any cumulative impacts. At this time, the levee raising activity will only occur in 1995 as part of the short-term project to restore capacity to the Guadalupe River. The design of any long-term project at this location is not currently known; however, if it will result in cumulative impacts, these will be reviewed as required under CEQA at that time.

Vegetation control consistent with the existing EIR. A vegetation control program will be implemented in a manner consistent with the maintenance activities described in the 1982 Guadalupe River EIR and Engineer's Report. This program will include a combination of mowing, herbicide spraying, and/or hand removal of brush and trees, depending on the location. Refer to the attachment for a description of the proposed vegetation control program. This work has already been evaluated under the existing EIR/Engineer's Report and does not require additional review at this time. It should be noted that the District intends to review its entire Districtwide vegetation control program under a future EIR to be completed in approximately 2 years.

I have attached a Preliminary Environmental Assessment for this project. Please have your Department Manager sign the form and return a copy of the signed form to me.

Cindy Roessler

Environmental Planner
Environmental Planning Division

Attachments

cc: B. Goldner, R. Bravo (w/att), J. Ortiz, M. Stone (w/att), C. Roessler (w/att), File, Read

CR:lcg

CT0703i

SANTA CLARA VALLEY WATER DISTRICT

PRELIMINARY ENVIRONMENTAL ASSESSMENT

NAME OF PROJECT

Guadalupe River Capacity Restoration—Short-Term Project

LOCATION

Guadalupe River from the Southern Pacific Railroad crossing to Highway 101, Cities of San Jose and Santa Clara

STAFF DETERMINATION

The District's staff, having undertaken and completed a preliminary environmental assessment of this project in accordance with the District's resolution entitled "Adopting District Guidelines Governing Compliance with the California Environmental Quality Act of 1970, as Amended," has concluded that this project does not require further environmental assessment because:

_____ The proposed action does not constitute a project within the meaning of Section 15378.

_____ The project is a Ministerial Project under Section 15268.

_____ The project is an Emergency Project under Section 15269.

_____ The project constitutes a feasibility or planning study under Section 15262.

__X__ The project is Categorically Exempt under Section

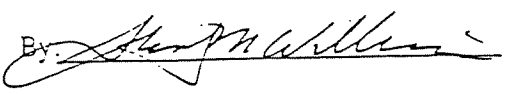
Applicable Exemption Class 1 Repair and Minor Alteration of an Existing Facility or has been reviewed under a previous Environmental Impact Report

_____ The project involves another public agency which constitutes the Lead Agency.

Name of Lead Agency Santa Clara Valley Water District

Stanley Williams
General Manager

Date: July 25, 1995

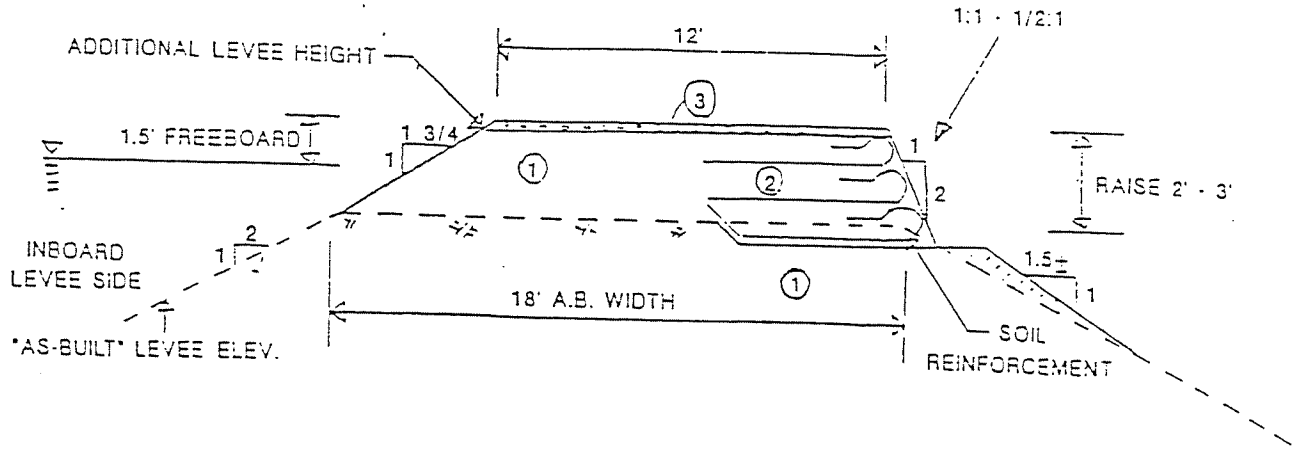
By: 

F1296af

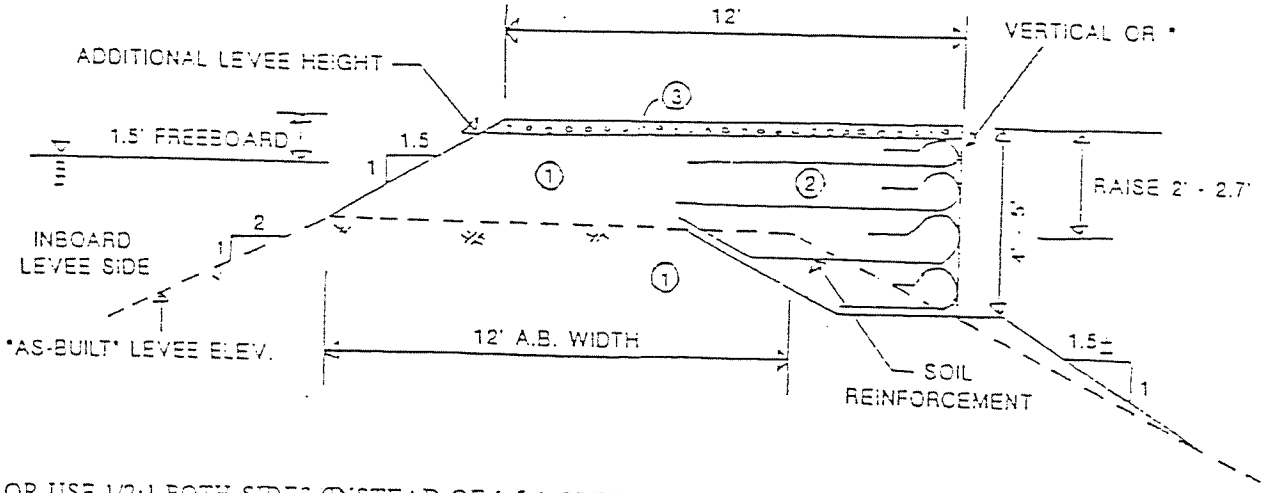

HWY 237
1500' O.S.
HETCH HETCHY
HETCH HETCHY
TASMAN
TRIMBLE ROAD
OLD ST

Figure 2

Add Height to the Levees Above the "As-Built" Condition



SPRR to 1500' d/s HETCH-HETCHY



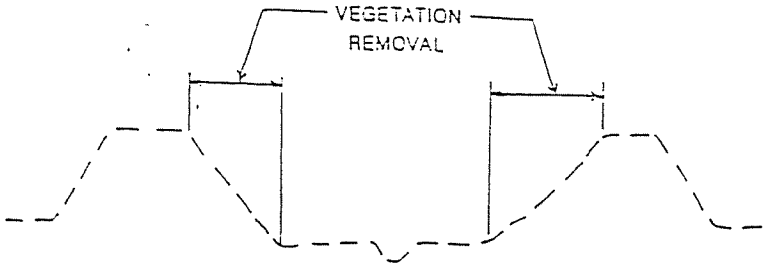
* OR USE 1/2:1 BOTH SIDES (INSTEAD OF 1.5:1 CREEKSIDE AND VERTICAL OTHER SIDE)

1500' d/s HETCH-HETCHY to TRIMBLE ROAD

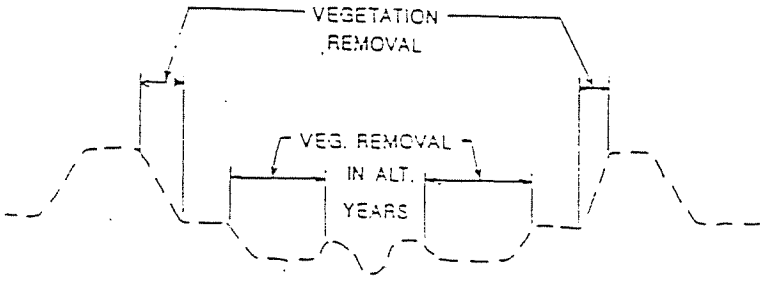
MATERIALS FILL:
① IMPERVIOUS SANDY CLAY, P.I ≤ 25
② SEMI-IMPERVIOUS, OR STRUCTURAL BACKFILL, P.I ≤ 1.5±
③ 4" AGGREGATE BASE SURFACING

Figure 5

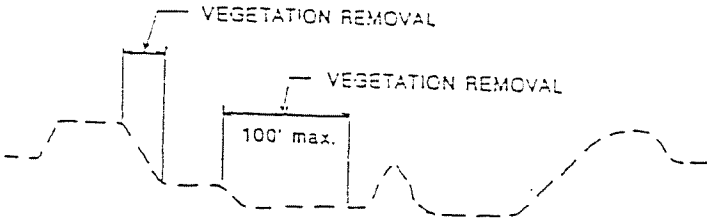
(SECTIONS LOOKING UPSTREAM)



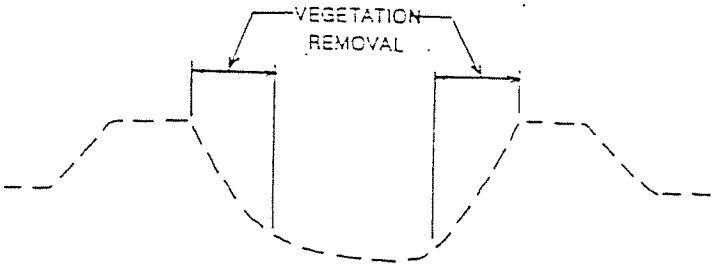
SPRR to 1500 FT. DOWNSTREAM OF HETCH-HETCHY



1500 FT. DOWNSTREAM OF HETCH-HETCHY to MONTAGUE EXPRESSWAY



MONTAGUE EXPRESSWAY to TRIMBLE ROAD



TRIMBLE ROAD to HIGHWAY 101

Figure 4

GUADALUPE RIVER CAPACITY RESTORATION
VEGETATION REMOVAL

Reach 1, SPRR to 1500 feet downstream of Hetch Hetchy

- The inboard levee slopes will be mowed and then sprayed for broadleaf weeds. Coyote brush will be removed from the levee slopes from Gold Street to 1500 feet downstream of Hetch Hetchy. The work is scheduled for September.

- This work is in compliance the 1983 EIR and with the MOU with the California Department of Fish and Game.

Reach 2, 1500 feet downstream of Hetch Hetchy to Montague Expressway

- The inboard levee slopes will be mowed and then sprayed for broadleaf weeds. Coyote brush will be removed from the levee slopes along the entire reach. The work is scheduled for July.

One of the two excavated channels will be mowed each year, alternating the channel to be mowed each year. Woody vegetation will be sprayed with Rodeo. This work is scheduled for July/August.

All vegetation will be cleared 100 feet downstream of Montague Expressway.

The work listed above is in compliance the 1983 EIR and with the MOU with the California Department of Fish and Game.

Trees 100 to 350 feet downstream of Montague Expressway will be ~~selectively~~ removed under a permit from California Department of Fish and Game.

Reach 3, Montague Expressway to Trimble Road

The inboard levee slope of the east bank will be mowed and then sprayed for broadleaf weeds. This work is scheduled for July.

This work is within the parameters of the 1983 EIR and in compliance with the MOU with the California Department of Fish and Game.

The excavated channel will be mowed and woody vegetation will be removed by hand. Coyote brush will be removed from the east bank for the entire reach. This work is scheduled for July.

This work is in compliance the 1983 EIR and with the MOU with the California Department of Fish and Game. Under the MOU for this area, mowing the channel bottom and woody vegetation removal on the channel bottom and side slopes requires that the Department of Fish and Game biologist write a letter of approval prior to

- starting the work.

- All vegetation will be cleared 100 feet upstream of Montague
- Expressway and 100 feet downstream of Trimble Road which is in
- compliance the 1983 EIR and with the MOU with the California
- Department of Fish and Game.

Reach 4, Trimble Road to Highway 101

- The inboard levee slope of the east bank will be mowed and then sprayed for broadleaf weeds. This work is scheduled for July and is in compliance the 1983 EIR and with the MOU with the California Department of Fish and Game.

- Coyote brush will also be removed from the east bank. This work is in compliance the 1983 EIR and with the MOU with the California Department of Fish and Game. Under the MOU for this area, woody vegetation removal on side slopes requires that the Department of Fish and Game biologist write a letter of approval prior to starting the work.

- All vegetation will be cleared 100 feet upstream of Trimble Road
- which is in compliance the 1983 EIR and with the MOU with the
- California Department of Fish and Game.

Inter-Gov't: State Fish + Game Dept,

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME

Improved Channels MOU

Post Office Box 1723
Gilroy, California 95021

July 14, 1995

Ms. Mary Stone
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, California 95118-3686

Dear Ms. Stone:

In response to our July 10, 1995, telephone conversation, this letter will serve a approval for the maintenance activities described herein. Under the Department's Memorandum of Understanding with the District for "Routine Maintenance Activities in Improved Channels," the District may remove fallen trees and branches and associated debris in the channel to maintain channel design capacity (Part II, Section H). No trees or branches that are perched or in imminent danger of falling shall be removed at this time, pending a survey identifying the trees under consideration for removal (per June 19, and July 10, 1995, telephone conversations). This approach enables the Department to determine the magnitude of removal and clearing that may occur, so that we can better identify the environmental impacts associated with this activity.

If you have any questions please feel free to call me at (408) 842-8917.

Sincerely,

Margaret A Roper

Margaret A. Roper
Fishery Biologist
Region 3

bc: M. Roper, K. Anderson, G. Combes

State of California

Memorandum

COPY

: Gary Combes
Warden

Date : 11 August 1995

From : Department of Fish and Game

Margaret Roper, Fishery Biologist

Subject :

Guadalupe River: Streambed Alteration Agreement #723-95
Conditions For Inclusion

These are the conditions I would like included in the Agreement. I met on-site with Dennis Ely today and we discussed the approach to the selective pruning and trimming of trees downstream of Montague Expressway on the river.

1. On the right bank (looking downstream from Montague Expressway), pruning of limbs will be allowed as per agreement in the field marked on the first cottonwood stand. This elevation was surveyed as 1.5 feet below the Montague Bridge soffit. Cutting of tree trunks will be allowed as marked in the field with paint.

prune from tree bottom to the 1.5' surveyed mark

2. On the left bank (looking downstream from Montague Expressway), pruning of limbs will be allowed as per agreement in the field as surveyed as 1.5 feet below the Montague Bridge soffit. Limbs are defined for this activity as being four (4) inches in diameter or less at their base. No tree trunks will be cut on this bank.

3. On both banks, broken or dead hanging limbs that are attached above the pruning line can be pruned at the break point.

4. All pruned and cut material, from both banks, shall be removed off site.

5. Previously trimmed tree material shall be removed off site.

6. Dead standing trees can be cut.

7. These activities are confined to the downstream riparian vegetation that is between Montague Expressway and the island (Approximately 600 feet). **Gary you might want to check this distance with Dennis for accuracy. I don't want them doing anymore further downstream of this stand.**

8. All debris, deposited during winter storms on both banks, shall be removed off site.

Notification No. [illegible] THP No. _____

AGREEMENT REGARDING PROPOSED STREAM OR LAKE ALTERATION

THIS AGREEMENT, entered into between the State of California, Department of Fish and Game, hereinafter called the Department
JOSE ORTIZ-SCHULD & PASTO ROMANSU SUNDY
of SAN JOSE State of CA 95118, hereinafter called the operator, is as follows:

WHEREAS, pursuant to Division 2, Chapter 6 of California Fish and Game Code, the operator, on the 27 day of JULY 19 25, notified the Department that he intends to substantially divert or obstruct the natural flow of, or substantially change the bed channel, or bank of, or use material from the streambed of, the following water: CHIVALEUS CREEK, in the County of SANTA CLARA, State of California, S_____ T_____ R_____.

WHEREAS, the Department (represented by CP Comes has made an inspection of subject area on the _____ day of JULY, 19 25, and) has determined that such operations may substantially adversely affect existing fish and wildlife resources including: CALIFORNIA

THEREFORE, the Department hereby proposes measures to protect fish and wildlife during the operator's work. The operator hereby agrees to accept the following recommendations as part of his work: Numbers 1 7 8 11 from the list of recommendations on the back of this page and the following special recommendations:

1. All work in or near the stream or lake shall be confined to the period [illegible]

The operator, as designated by the signature on this agreement, shall be responsible for the execution of all elements of this agreement. A copy of this agreement must be provided to contractors and subcontractors and must be in their possession at the work site.

If the operator's work changes from that stated in the notification specified above, this agreement is no longer valid and a new notification shall be submitted to the Department of Fish and Game. Failure to comply with the provisions of this agreement and with other pertinent Code Sections, including but not limited to Fish and Game Code Sections 5650, 5652 and 5948, may result in prosecution.

Nothing in this agreement authorizes the operator to trespass on any land or property, nor does it relieve the operator of responsibility for compliance with applicable federal, state, or local laws or ordinances.

THIS AGREEMENT IS NOT INTENDED AS AN APPROVAL OF A PROJECT OR OF SPECIFIC PROJECT FEATURES BY THE DEPARTMENT OF FISH AND GAME. INDEPENDENT REVIEW AND RECOMMENDATIONS WILL BE PROVIDED BY THE DEPARTMENT AS APPROPRIATE ON THOSE PROJECTS WHERE LOCAL, STATE, OR FEDERAL PERMITS OR OTHER ENVIRONMENTAL REPORTS ARE REQUIRED.

This agreement becomes effective on [illegible]

Operator [illegible]

Title [illegible]

Organization [illegible]

Date [illegible]

Department Representative

Title [illegible]

Department of Fish and Game, State of California

Date [illegible]

*If inspection was not made, cross out words within parentheses.

FG 1060 (5-87) 87 5745

LETTER OF COMMENT

FOLLOWED BY RESPONSE

In conclusion, Cargill recognizes and appreciates the District's difficulties in providing a critical public service in a time of fiscal austerity. Given SCVWD's expertise in flood prevention, we are confident that you will act both expeditiously and prudently to address this matter. As with the Coyote Creek project, Cargill stands ready to assist the Santa Clara Valley Water District in identifying and implementing cost-effective and prudent measures to safeguard the public from flooding.

Very truly yours,

Robert C. Douglass
Manager, Real Property

Enclosures: Letter to Chairwoman Margie Fernandes and Alviso Master Plan Task Force and Regina Williams, City Manager, City of San Jose dated June 21, 1995

FAX 7/24 SAPINO (RK) SAPINO (BD) PKWMH lock

4a

Facsimile Cover Sheet

To: Rosemary C. Kamei, Chairwoman
Company: SCVWD Board of Directors
Phone:
Fax: 408-266-0271

From: Robert C. Douglass
Company: Cargill Salt
Phone: 510/790-8156
Fax: 510/790-8189

Date: 07/24/95
Pages including this cover page: 6

Comments: Letter dated 7/24/95 and enclosure dated 6/21/95. Originals to follow via regular mail.

CARGILL
SALT DIVISION

7220 Central Ave.
Newark, CA 94560-4806
510/797-1820 1-800-321-1458
Fax: 510/790-8189

July 24, 1995

Ms. Rosemary C. Kamei, Chairwoman
Board of Directors
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

Dear Chairwoman Kamei and Members of the Board of Directors:

Re: **Urgent Remedial Flood Control Measures on the Guadalupe River From Southern Pacific Railroad to Highway 101 San Jose/Santa Clara (Item 7 – July 11, 1995 Board agenda)**

Having suffered through the recent winter, Cargill Salt recognizes the need to increase the effective capacity of the Guadalupe River channel prior to the next rainy season in order to safeguard lives and property. While we appreciate the need for the District to take action, Cargill has some important concerns regarding this project that should be addressed.

1. **Notification**

Cargill Salt is a major landowner downstream of the proposed project. Despite our proximate interest, we only learned of this action by reading the board's agenda which is routinely mailed to our office and, in this case, was received the day prior to the meeting. We did appreciate receiving a copy of the engineer's report and staff summary although it came about a week after your meeting.

2. **Lack of Analysis of Impacts, Especially With Regard to Cargill's Property**

The Guadalupe River Planning Study essentially ignores the downstream effects of the project. We believe it is necessary to address the following questions: What would be the effect on Cargill's properties (and other properties) of raising the upstream levees? What is the capacity of the Alviso Slough to handle any increased flow volume and/or velocity created by raising the levees or by the Corps of Engineer's upstream project currently in progress? In working with the Alviso Master Plan Task Force, we have become aware of

CARGILL
SALT DIVISION

7220 Central Ave.
Newark, CA 94560-4206
510/797-1820 1-800-321-1458
Fax: 510/790-8189

June 21, 1995

Chairwoman Margie Fernandes
and Members of the
Alviso Master Plan Task Force
Regina V. Williams, City Manager
City of San Jose
801 North First Street
San Jose, CA 95110

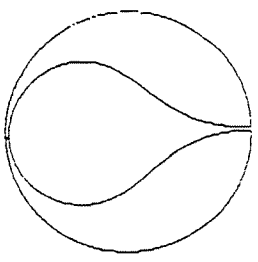
Dear Chairwoman Fernandes, Members of the Task Force and City Manager Williams:

As a member of the emergency planning subcommittee to the Alviso Master Plan Task Force, I would like to bring to your attention an inconsistency and apparent oversight in the City of San Jose's Flood Emergency Plan for North San Jose, dated February 1995.

In the recently released "Existing Conditions and Constraints Report, Alviso Master Plan" prepared on behalf of the City of San Jose and dated April 1995, the potential for tidal flooding is clearly spelled out on pages 6, 14, and 16. The authorities cited are the Federal Emergency Management Agency, U.S. Army Corps of Engineers South Bay Shoreline Study, and the San Francisco Bay Conservation and Development Commission.

The City's Flood Emergency Plan for North San Jose does not encompass the possibility of tidal flooding, however. On Page 3, under the heading "Scope," the document states: "This plan addresses flooding due to rain, overtopping of levees, or failure of those levees protecting developed areas in north San Jose/Alviso."

At the last subcommittee meeting, I asked Frannie Winslow, the emergency services director, if this encompassed salt pond levees as well as river levees. She said it did not. Indeed, there is no reference, direct or indirect, throughout the report that contemplates tidal flooding. No warning system, no evacuation planning nor any other provision is made for the possibility of tidal flooding. This seems to be a significant oversight.



Cargill Salt owns and/or maintains the salt pond levees in the Alviso vicinity. None of these levees was designed, built or maintained to be flood control levees. The levees were built and are maintained solely to protect our ponds and the brines in them. The city and community should not rely upon these structures for flood protection.

We would be happy to discuss this matter with you in further detail to provide a more complete understanding of the issues. Please feel free to contact me at any time at :(510) 790-8157.

Very truly yours,

Jill Singleton

Jill Singleton
Public Affairs Manager

cc: Members of the Master Plan Task Force Emergency Planning subcommittee
Frannie Winslow, Administrator, Office of Emergency Services, City of San Jose
Senior Planner Laurel Prevetti, City of San Jose Planning Department

September 28, 1995

Mr. Robert C. Douglas, Manager
Cargill Salt Division
Real Property
7220 Central Avenue
Newark, CA 94560

Dear Mr. Douglas:

Subject: Guadalupe River Capacity Restoration From Southern Pacific Railroad to Highway 101—Project No. 6006-101

Thank you for your July 24, 1995, letter commenting on the Santa Clara Valley Water District's (District) urgent remedial flood control measures on Guadalupe River. I will address each of the issues as presented in your letter.

1. Notification

Certainly under the emergency circumstances we were not able to have our normal outreach to public and property owners regarding our proposals. The only active discussion on the July 11 date was to set the public hearing for July 25. You did receive notice and the Engineer's Report prior to the hearing.

2. Lack of Analysis of Impacts

The impact on Cargill properties due to levee raising was addressed in the 1983 Guadalupe River Planning Study—County Marina to Southern Pacific Railroad. Another copy of that report was recently sent to your staff. The analysis in that report concluded that impacts are negligible for the existing conditions. The proposed levee raising does not change that condition. The 1 percent design water surface elevation downstream of Gold Street in the current emergency plan is the same as in the 1983 plan.

We intend that the immediate emergency measures be followed by an analysis of the long-term solutions for this area. The concerns for Cargill's property and the integrity of the levees will be addressed in that study which will begin later this year and take 2 to 4 years to complete.

2a. Provision of Compensatory Damages

Because the proposed capacity is not significantly different than envisioned by the 1983 plan, and the 1983 plan did not significantly change preproject conditions, the District has made no plans to compensate Cargill for any loss of property. Long-term planning will commence as described above.

3. **Public Policy Considerations**

The Guadalupe River has been maintained regularly in accordance with the program described in the 1983 Engineer's Report and Environmental Impact Report. Vegetation clearing and sediment removal were restricted to only those areas thought to be necessary to maintain flow capacity. Unfortunately, based on what we have learned from this past winter's events, the design assumptions were overly optimistic and the river never had the capacity for which it was designed.

4. **Request Action Plan to Maintain Flood Channels**

The District is working with the Corps of Engineers to obtain a 404 permit to do urgent sediment removal at many sites in Santa Clara County. We are also proceeding with construction in the interim project which will be in place before next winter. Finally, we are intending to undertake a study to identify issues and possible long-term solutions.

Sincerely,

ORIGINAL SIGNED BY

P. Kay Whitlock
Assistant General Manager

cc: R. Blank, A. Bennetti, K. Whitlock, B. Goldner, I. Shintani, N. Hsueh, G. Fowler, R. Talley

RT:lcg:CT0821d

LETTER OF COMMENT

FOLLOWED BY RESPONSE

FAX-2 JUL 25 '95 09:02PM S C VALLEY WATER DISTRICT P.1

rec'd Almaden

COPY MAILED TO PARTY IN FILE

WESTERN WATERS CANOE CLUB

40 Redding Road
Campbell, CA 95008
(408) 371-5809

July 22, 1995

Mr. Randall R.Talley
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

Subject: Guadalupe River Planning Study - Southern Pacific Railroad (Alviso) to Highway 101, Engineer's Report - Project No. 3015.

Dear Mr. Talley:

We are very concerned with the protection and restoration of our local waterways and their riparian habitats. We recognize the need for certain maintenance activities along our waterways and their corridors. However, these activities must be performed in an environmentally friendly manner and serve to enhance or restore the waterways and their riparian zones. They must not further degrade them in any manner. As you know experts state that over 95% of our riparian habitat has been lost due to human negligence and stupidity, so we simply can not afford to loose anymore.

In view of the above we strongly oppose any activity which negatively impacts our waterways or their riparian corridors and strongly support activities which enhances or restores them to a more natural condition. Any maintenance activities need to be performed only at times when they will not harm or significantly disturb native wild and aquatic species which inhabit or migrate through our waters or riparian areas.

We have reviewed the subject Engineer's Report and have the following specific comments:

The report indicates that in both the January and March storms, the peak water flow downstream of Highway 101 was estimated to be about 10,000 cfs. It states that there was 2 to 3 feet of freeboard from the Southern Pacific Railroad Bridge (SPRB) in Alviso to Montague Expressway. In January, it indicates that only 1 foot of freeboard remained at the Hwy 237 bridge soffit. It further states that there was a large debris load at the Hwy 237 bridge but that it was not the cause of the high water elevations. The report blames high channel "n" values for the high water elevations

The report does not state what time and date the observations were made. What affect does tide have on the water levels at and below Montague Expressway? According to tide charts, the tide could fluctuate over eight feet in the area. On January 11th peak tide was 5.9 ft. and on March 10 th peak tide was 5.1 ft. If peak flow and peak tide coincided it certainly would have affected the water level and freeboard in the entire area. What affect would a seven foot tide have?

TYP. WALKING ON DEBRIS

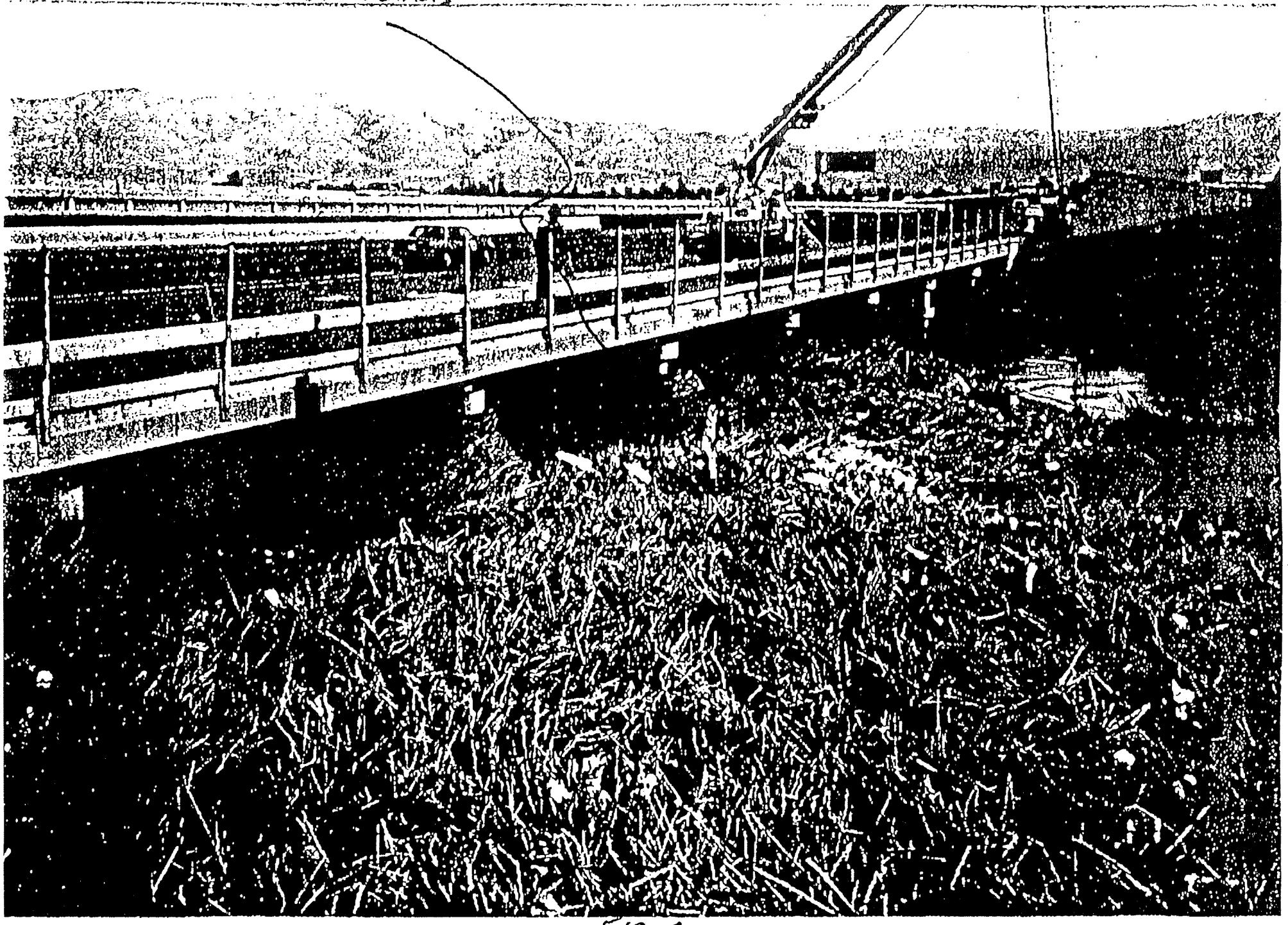


FIG. 1

GUADALUPE RIVER U/S OF HWY 237 - LOOKING D/S

JUL-23-99 09:40AM U.S. WATER DISTRICT 10 P.04

K Blank

September 13, 1995

Mr. Lawrence Johmann
Western Waters Canoe Club
40 Redding Road
Campbell, CA 95008

Dear Mr. Johmann:

Subject: Guadalupe River Capacity Restoration From Southern Pacific Railroad to Highway 101—Project No. 6006-101

Thank you for your July 22 letter commenting on our emergency levee raising project for the Guadalupe River between Southern Pacific Railroad (Alviso) and Highway 101. I will respond to your comments as they were presented in your letter.

Tides are a confusing subject to many people in Santa Clara County. I have answered many questions and over the years have written two memos trying to explain tides to staff and the public. I have compiled all the information into a draft brochure format, a copy of which I am enclosing. Basically, tides do not significantly affect stream levels which are above the tide level. As an example, in the January event our high water surveys showed water surface elevations upstream of Gold Street of 11.5-12.0 feet National Geodetic Vertical Datum (NGVD) (Plan Sheet 2 of the report). Any tide, even a high tide of 7.0 NGVD or more, would not have affected these stream levels.

Debris is very visible during a large flood. It is easy to attribute the high water or flooding to debris collecting on bridges. When debris, or the bridge itself, is causing a choking or constriction in the flow, there is a difference in the water surface elevations upstream and downstream. The river or creek rises on the upstream side to generate enough energy (i.e., difference in water levels) to push the flow through the constriction. The worse the blockage, the greater the difference in water levels. Our high water surveys for the January event (Plan Sheets 2 and 3 in the report) show less than 1 foot difference between the water surface elevations upstream and downstream of Highway 237 and Tasman Drive bridges. These are small differences and indicate that the debris was not significantly affecting the bridge capacity. Observations by Santa Clara Valley Water District (District) personnel on site during both the January and March events were that the substantial debris was floating on the surface and not clogging the waterway. The results of our hydraulic model analysis for the January event (the water surface profile plotted on the plan sheets in the report) showed a good correlation with a uniform flow condition, not the more abrupt changes which would occur from blockages.

The formula used to determine the flow in a channel is based on the channel's dimensions, flow rate, water depth, and Manning's "n" values. Manning's "n" is a measure of the channel's resistance to flow and is also known as the channel roughness coefficient. Manning's "n" is an important constant and represents the surface condition of the sides and bottom of the channel. There are tables of experimental "n" values. These tables have large ranges in values due to variations in the channel slope, cross section,

bank configuration, and vegetation. In addition, different water depths, seasonal vegetation growth, the amount of vegetation relative to open space, and channel erosion cause the "n" value to vary.

In the analysis of the 1995 storm events the channel's dimensions, flow rate, and water depths were known. This made it possible to calibrate and check the original design. Thus we were able to determine the channel's composite "n" values with certainty. The increase in "n" value from Gold Street to upstream of Tasman Drive, as explained in the report, was due to sediment and denser vegetation encroaching into the low-flow channel and the change in vegetation species since the 1983 design. The increase in "n" value upstream of Montague Expressway was attributed to overly optimistic 1983 design assumptions, not the mitigation site. The 1983 design "n" value used for this reach was incorrect. The "n" values determined for the areas upstream of Hetch Hetchy and Trimble Road were found to be within a reasonable range compared to the 1983 design values.

The high water elevations cannot be attributed to the mitigation site located between Montague Expressway and Trimble Road. The site was planted in the winter of 1994 and is not of the size or maturity to significantly affect the channel roughness. The site was defined in 1991-92, when an analysis was done which showed that, based on the original (1983) design criteria, there was sufficient capacity to allow additional vegetation to be established. The analysis allowed for a reduction in the 1983 design width of the clear area in the excavated overflow channel which was originally intended to remain clear. The surplus width was used for the mitigation site. The site is located along the west bank of the excavated channel adjacent to the historic riparian channel and will remain undisturbed by District maintenance activities. In addition, the site will still have wildlife benefits. The historic riparian channel serves as the main fish and wildlife corridor and will remain undisturbed. The only vegetation removal to occur in this section is along the excavated overflow area and east bank.

The mitigation site did suffer some loss of willow and cottonwood cuttings from this year's storm events. Since the site extends nearly a mile in length, and has a wide range of soil and hydrological conditions, this variability is expected. When the site was planted, high mortality was anticipated and, therefore, the willow and cottonwood cuttings were planted in a very dense pattern. Prior to the floods, survival counts indicated about a 33 percent survival rate. We evaluated the site in May and will be reexamining it by mid-October. Depending on survival counts at that time, we may install additional cuttings in areas likely to have reasonable survival rates in the future. It is not uncommon to need to replant in the early years of revegetation sites (during the plant establishment period) when the smaller plantings are more susceptible to damage. As we investigate a long-term flood control solution for the lower Guadalupe River, we will be evaluating the recovery of the existing mitigation site to determine if replanting is necessary.

The Engineer's Report recommends as a key element of the interim solution that the vegetation control program continue as it has in the past in accordance with the 1983 Environmental Impact Report and 1990 Memorandum of Understanding with the Department of Fish and Game. The areas of vegetation control are extremely limited as shown in Figure 4 of the report. These areas do not include the riparian vegetation adjacent to the thalweg. The historic riparian channel between Montague Expressway and Trimble Road will remain undisturbed by District maintenance activities. Since the vegetation control program is limited, no significant adverse affects are expected to occur on fisheries habitat or migration. The District uses only herbicide types and application processes approved by the State and the U.S. Environmental Protection Agency, and specifically only uses those herbicides approved for use in aquatic areas when spraying in the low-flow channel.

Adding height to the levees and continuing current maintenance practices was the only possible alternative which could have been implemented in time to provide the necessary protection before next winter's rains. It is considered an interim measure for the next 2 to 4 years because it does not provide the full factor of safety which we feel is appropriate. The District intends to look at alternate long-term solutions beginning later this year.

I have tried to respond to your comments as they were presented in your July 22 letter. Should you have any additional comments or questions, please call me at the Camden Office, (408) 927-0710, extension 2611.

Sincerely,

ORIGINAL SIGNED BY

Randall R. Talley, P.E.
Supervising Engineer
Flood Control Planning Division

Enclosure

cc: K. Whitlock, B. Goldner, C. Roessler, N. Hsueh, I. Shintani, G. Fowler, J. Ortiz, M. Stone, R. Blank, File

RB:fd:CT0912d

TIDES

IN SANTA CLARA COUNTRY

by Santa Clara Valley Water District

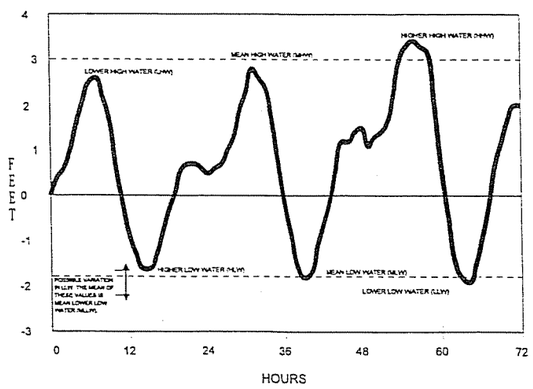
INTRODUCTION

Tides have always been of interest to sailors, clam diggers, and others, but the Santa Clara Valley Water District (District) also has need for special knowledge of tides in the south San Francisco Bay. Since all creeks and flood control channels eventually discharge into the South Bay, it is important to know the magnitude of possible extreme tides for proper design of levee heights, some bridges, and other structures. Other unique flood control facilities such as the Palo Alto Flood Basin required special knowledge of the tides because it temporarily stores storm water until the tides recede and the water is released into the Bay. Construction activities, wetlands mitigation design and operation, and water quality testing also require knowledge of tidal action.

TIDAL CYCLE

A typical daily cycle is shown in Figure 1. There are two high tides (higher high water and lower high water) and two low tides (higher low water and lower low water) in 1 day. The average of a series of lower low water data is called mean lower low water (MLLW) and that of higher high water data is called mean higher high water (MHHW). Both MLLW and MHHW vary with geography and are specific to individual locations (Figure 2).

Figure 1—Typical Tidal Cycle



TIDE TABLES

Tide tables used for the South Bay estimate the height of the tide relative to MLLW at the National Ocean Service stations at Golden Gate, which is 2.86 feet below National Geodetic Vertical Datum (NGVD, commonly referred to as mean seal level datum). MLLW at the District's Gold Street tide gage in Alviso is 4.5 feet below NGVD. The tide tables include an adjustment factor to translate the tide information for the Golden Gate to the Alviso location. For high tides, the adjustment factor for Alviso is +3.3 feet, which should be added to the tide table value. The resulting value is the tide height above MLLW at Alviso, but not the height above NGVD or MLLW at the Golden Gate. For example, a prediction of a 3.0 foot tide at the the Golden Gate would mean that the tide at Alviso is 6.3 feet (3.0 + 3.3 feet adjustment factor) above MLLW at Alviso. MLLW at Alviso is 4.5 feet below NGVD (Figure 2) and so the tide at Alviso is 1.8 feet above NGVD (-4.5 + 6.3 feet). Figure 3 is the result of a tide study that translates the high tide elevations at Golden Gate to Alviso. The tide tables also indicate that high tides at Alviso occur 1.2 hours (72 minutes) after tides at the Golden Gate.

Figure 2

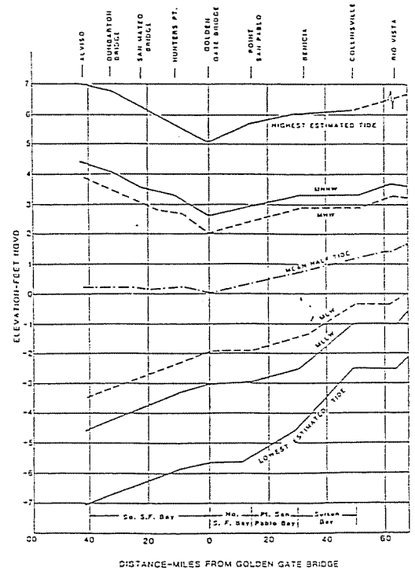


Figure 3—Relationship Between the High Tide Elevation Elevations at Golden Gate and Alviso

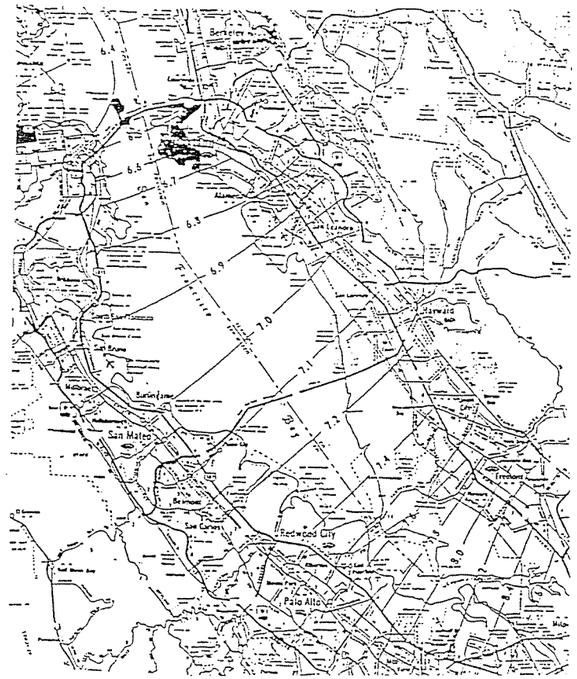
Golden Gate		
Tide Tables (Above MLLW)	Above NGVD	Gold Street in Alviso Above NGVD
5.00	2.14	4.10
5.50	2.64	4.68
6.00	3.14	5.26
6.50	3,64	5.84
7.00	4.14	6.42

More than 90 percent of the actual observed tides are higher than the predicted tides with 3 percent more than a foot higher. The National Ocean Service prepares the tide tables based on astronomic conditions, which account for only 70 percent of the influence on tidal action. Other factors are meteorological condtions such as barometric pressure or wind speed and direction. A drop of 0.1 inch in barometric pressure will increase the tide height by 0.1 foot. The highest tide recorded at Golden Gate since data was first collected in 1854, was 9.1 feet above MLLW on January 27, 1983, when the tide tables predicted only 7.1 feet above MLLW. An example of the possible variation in high tide was February 16, 1980, when the tide tables predicted a tide elevation of 6.6 feet (MLLW) at Golden Gate but the observed tide was 8.0 feet above the MLLW (5.14 feet NGVD). The observed tide at Gold Street was 6.86 feet NGVD, 1.72 feet higher than at Golden Gate..

EXTREME TIDAL EVENTS

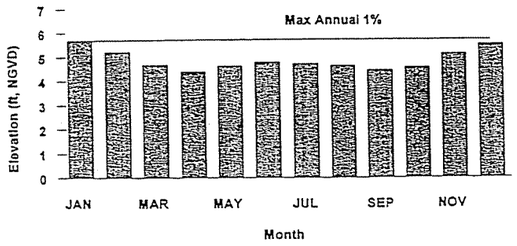
As a result of the high tides in 1983, the U.S. Army Corps of Engineers analyzed the maximum tide in each year to compute the 1 percent or 100-year tide (a tide height that has a 1 percent chance of occurring in any year). Figure 4 shows the 1 percent tide elevations as they increase toward the South Bay estuaries. The estimated 1 percent tide in Santa Clara County ranges from 7.6 to almost 9.0.

Figure 4—Adopted 100-Year Tide Elevations



A similar analysis was done using the maximum annual tide in each month. The expected 1 percent tide for each month is shown in Figure 5. The 1 percent tides in the months of November through February are nearly 1 foot higher than that of March through October.

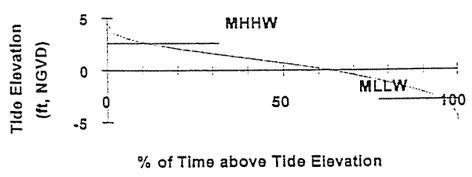
Figure 5—Variations of Estimated 1 Percent Tide Elevation by Month, Tide Elevation at Golden Gate Tide Gage for Each Month from 1898 to 1991



TIDAL CYCLE DURATION

Often it is necessary to know how long the tides could be expected to inundate different baylands elevations. The tide data at the Gold Street gage was used to compute the percent of time the tide equalled or exceeded a specific elevation. Figure 6 shows the percentage of time the tide is above each elevation.

Figure 6—Duration of Tide Elevation at Gold Street in Alviso



TIDE ELEVATION MAP FOR STREAMS

Figure 7 shows the extent to which streams are affected by 4 to 7 feet tide elevations and MHHW. The rise and fall of stream stage observed in other lengths of the creeks is a function of stream response to rainfall, not tides.

TIDE LEVELS EFFECT ON DIFFERENT STREAM FLOW

Figure 8 shows the effect of tide levels on streams during summer. Since the flow in the streams is low to zero, both high and low tides would push water up into the stream and raise the water level. The varied water levels are the result of the tide cycle only. However, when streams have a much higher inflow, the water levels are not raised with a high tide because their elevations are higher than the tide. Figure 9 shows that the tide would raise the water level only when the tide elevation is above the stream stage.

Fig. 8 Effect of Tide Levels on Low Stream Flow

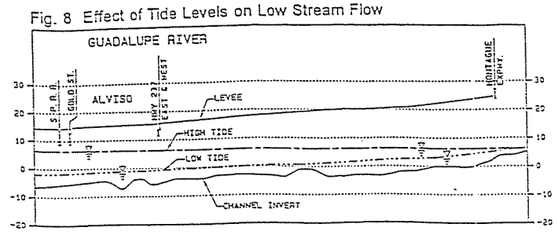


Fig. 9 Effect of Tide Levels on Moderate Stream Flow

